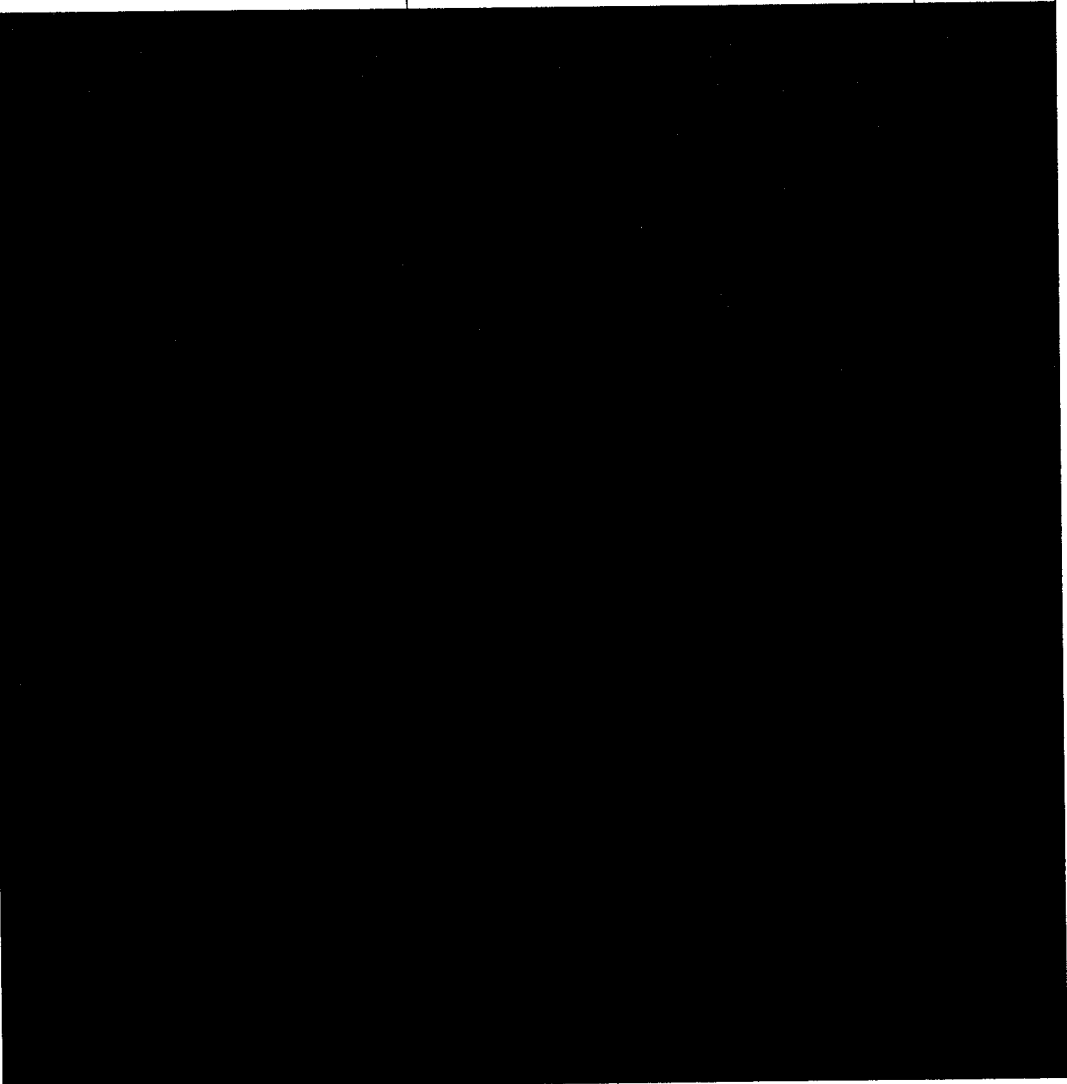


DS-17	Provide field options that are conditional and shall present only valid choices whenever possible.	

DS-18	Provide the capability to save and name ad hoc reports and make them available to certain user groups	
DS-19	Provide reports that shall be available to community based users (especially parents and parent advocacy groups)	

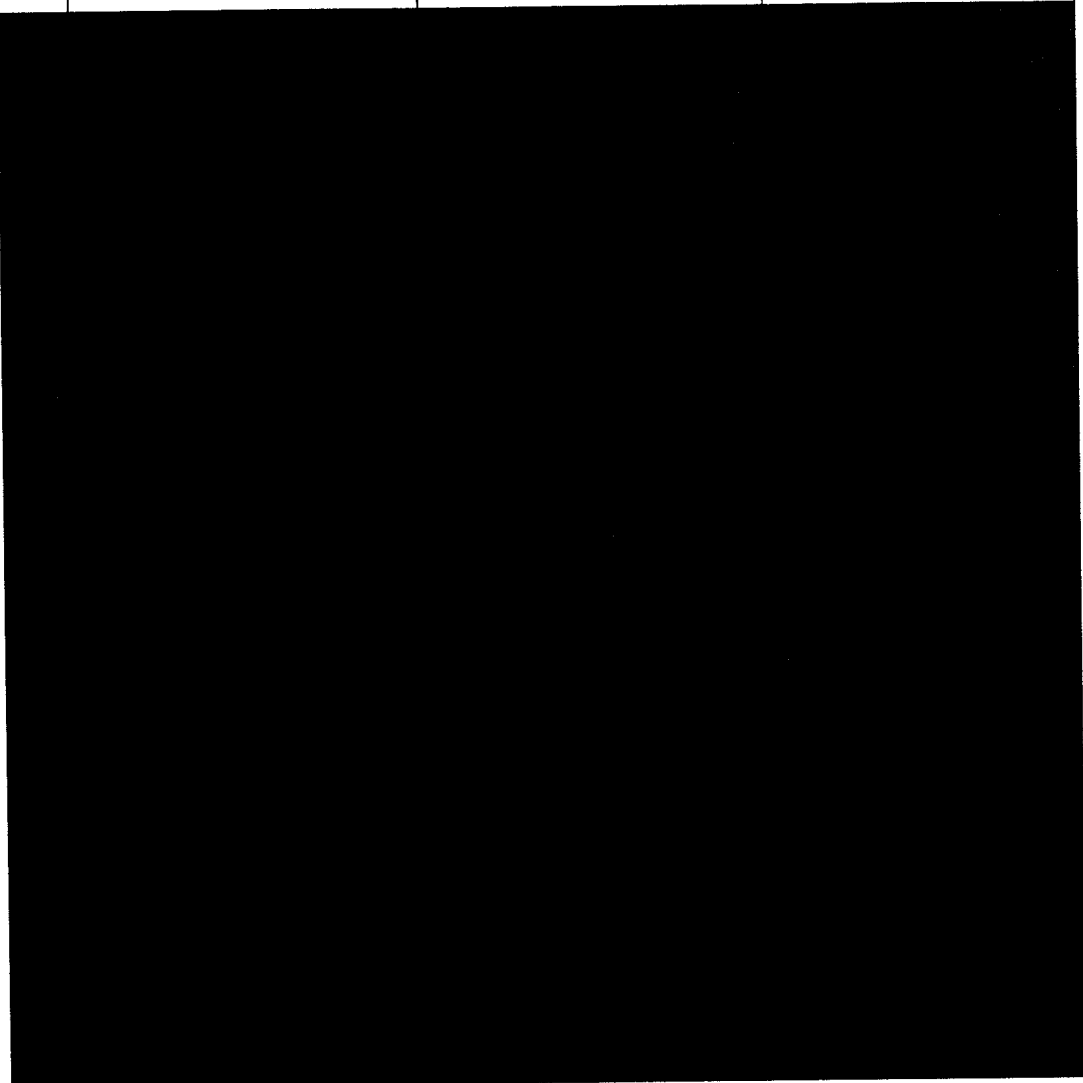
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	must be available in English, Spanish and other languages that may be deemed necessary as requirements gather efforts evolve.
DS-20	Provide drill-down and roll-up features that allow educators to see the data at different levels of detail based upon their user role and security.
DS-21	Provide the capability to review historical data and identify trends relating to student achievement

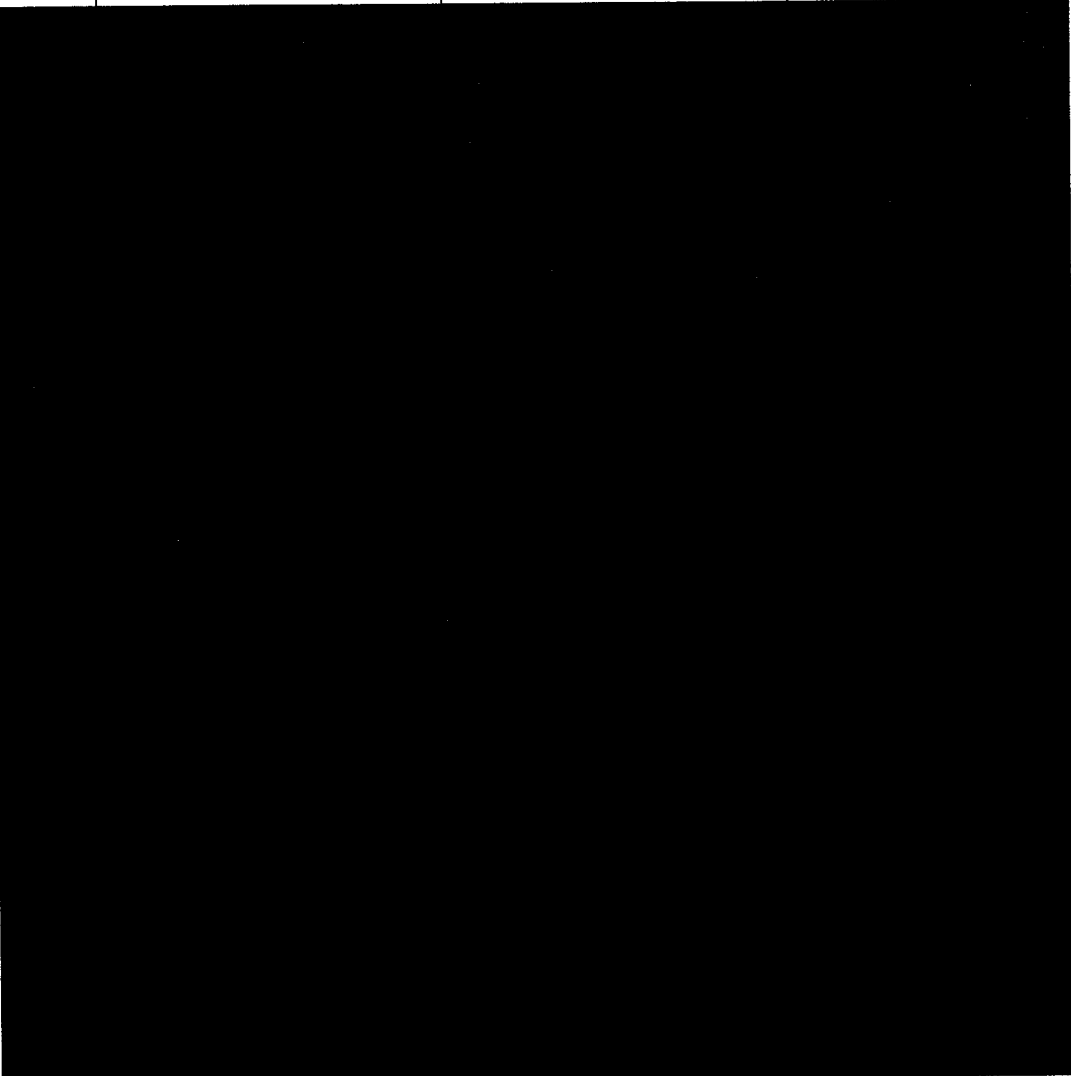


DS-22	Provide the capability to identify strengths/weaknesses among subpopulations, schools, grades, in each of the content areas and reporting categories.	
DS-23	Provide the capability to compare student, school, or division performance over a period of years broken down by the different demographic characteristics of students so they can review trends and patterns among the various subgroups	
DS-24	Provide the capability to analyze and	

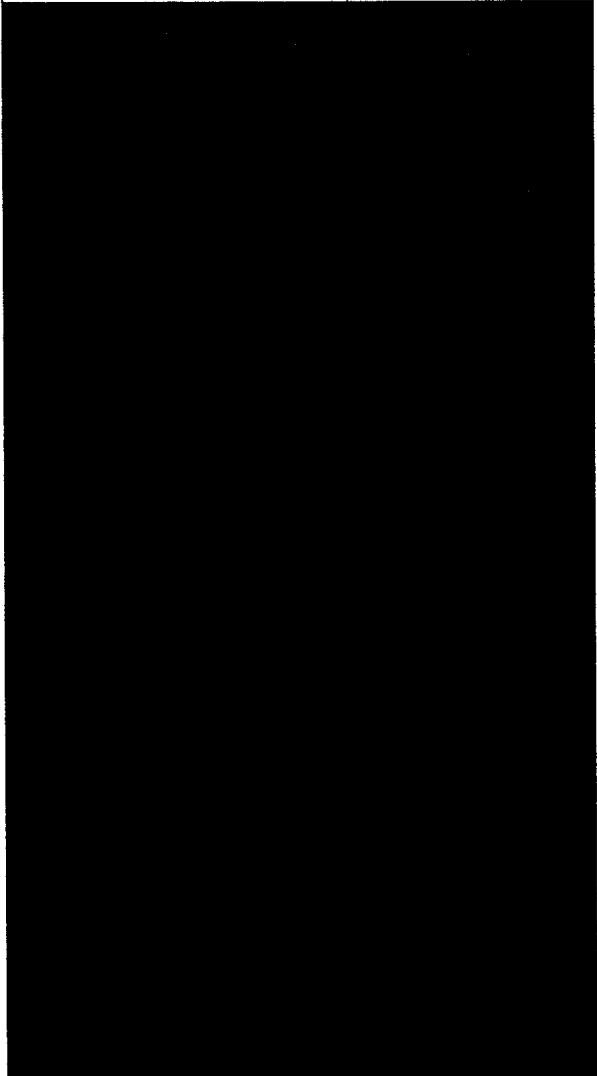
	examine longitudinal data at the student, classroom, school and state level for relationships and patterns
DS-25	Provide the capability to analyze student and staff demographic characteristics
DS-26	Provide a school by school comparison of key indicators such as DC CAS scores, student attendance, programs offered, AYP status, % of teachers highly qualified, and restructuring status.
DS-27	Provide the capability to analyze student achievement data by grade



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	level to where student achievement is highest and lowest, as well as where it has grown or declined.	
DS-28	Provide the capability to analyze student achievement data by grade level, sub-group, school, and classroom to see where intervention is needed	
DS-29	Provide the capability to identify student or student groups that are not meeting specific academic standards so , that programs can be targeted to their specific needs.	
DS-30	Provide the capability to compare achievement among schools with students with similar characteristics.	

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DS-31	Provide the capability to compare per pupil costs over time and between LEAs.		

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Security

Information protection occurs both strategically and tactically within an organization. The fulfillment of the security strategy is effected by the tactical mechanics of the overall enterprise. Effectual logical computer security management is concerned with confidentiality, integrity and availability (CIA) at the most fundamental levels. Each organization creates specific actions to address these fundamental concerns. For the Office of the State Superintendent of Education (OSSE), both physical and logical components of security are relevant and applicable to consider at the onset of this project. Effectual physical computer security is concerned with the prevention, deterring and detection of access to physical media and facility resources.

Layered security

Oracle practices security using defense-in-depth strategies. Defense-in-depth provides superior protection because it relies on multiple layers in the security model to protect both physical and logical resources. Any single point in security is not enough to protect a computer and information. Breakdowns in one or more components of a security model should provide enough protection to mitigate the risk of exposure that is compensatory with the type of data being protected. Less protection would be negligent and more protection would be wasteful. Guards and locks on doors, as well as password and access controls, are all components of a layered security model.

Physical Security

Oracle understands the security and protection of sensitive and protected material. We define physical security as the protection of physical assets and facilities, including but not limited to computer hardware, backup tapes, laptop computers, guards and proximity badge systems. Oracle will work with the existing physical protections that are provided in the data centers and other District facilities, and use strict Oracle security policies as a guideline for enhancing existing physical security protections.

We believe that the software solution presented in this proposal, in conjunction with the Oracle management philosophy about security, significantly mitigate physical security risks to the SLED project.

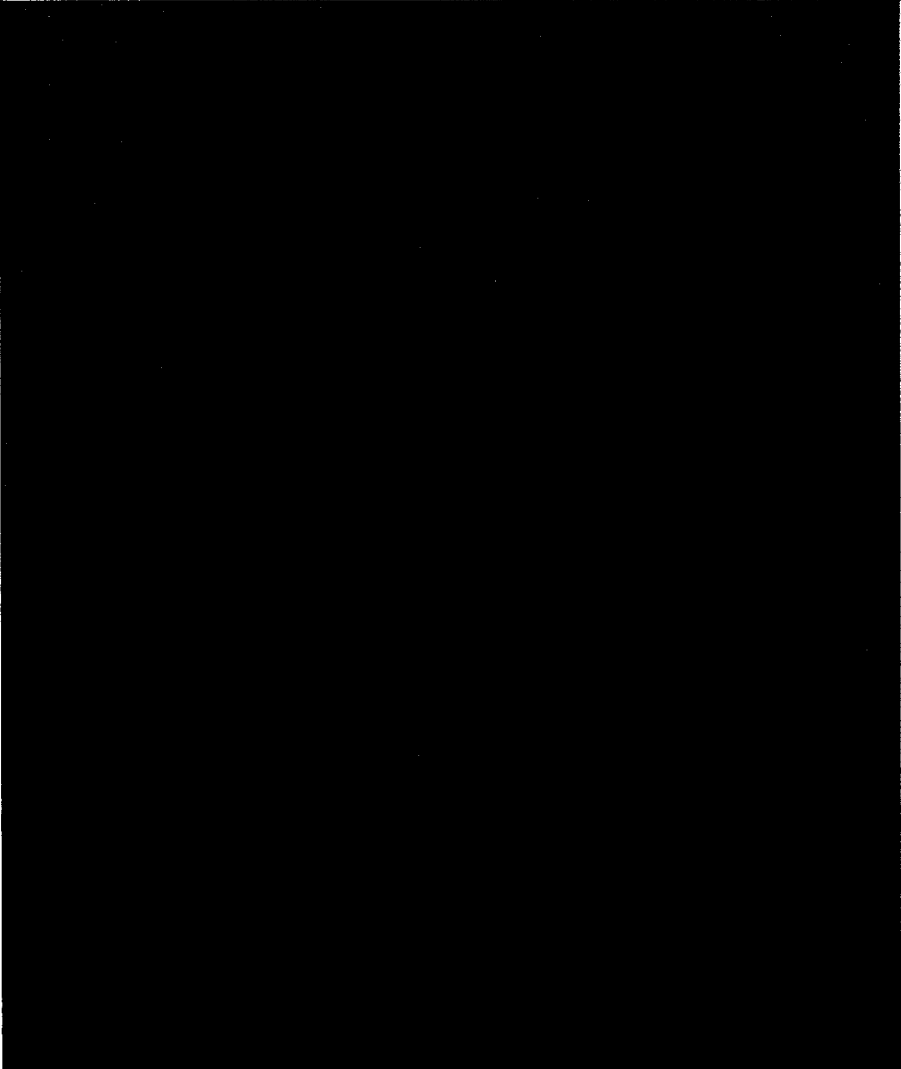
Logical Security

Oracle defines logical security with the confidentiality, integrity and availability of logical systems at the fundamental root of a logical security model. Oracle provides strict Global Information Security Policy to which all employees must adhere. The use of the Global Information Security Policy extends to our clients as a requirement by all management levels at Oracle. Oracle was built on security as an integral part of the organization.

Overall Policy

Oracle has aligned the Oracle Global Information Security Policy with the International Organization for Standardization (ISO) security policies under 17799. We believe this is


the most comprehensive security policy that exists and Oracle personnel are required to comply with the principles set forth in the policy.

STS Req. #	Requirement	Proposed Solution
S -1	Auditing and transaction logging facilities	

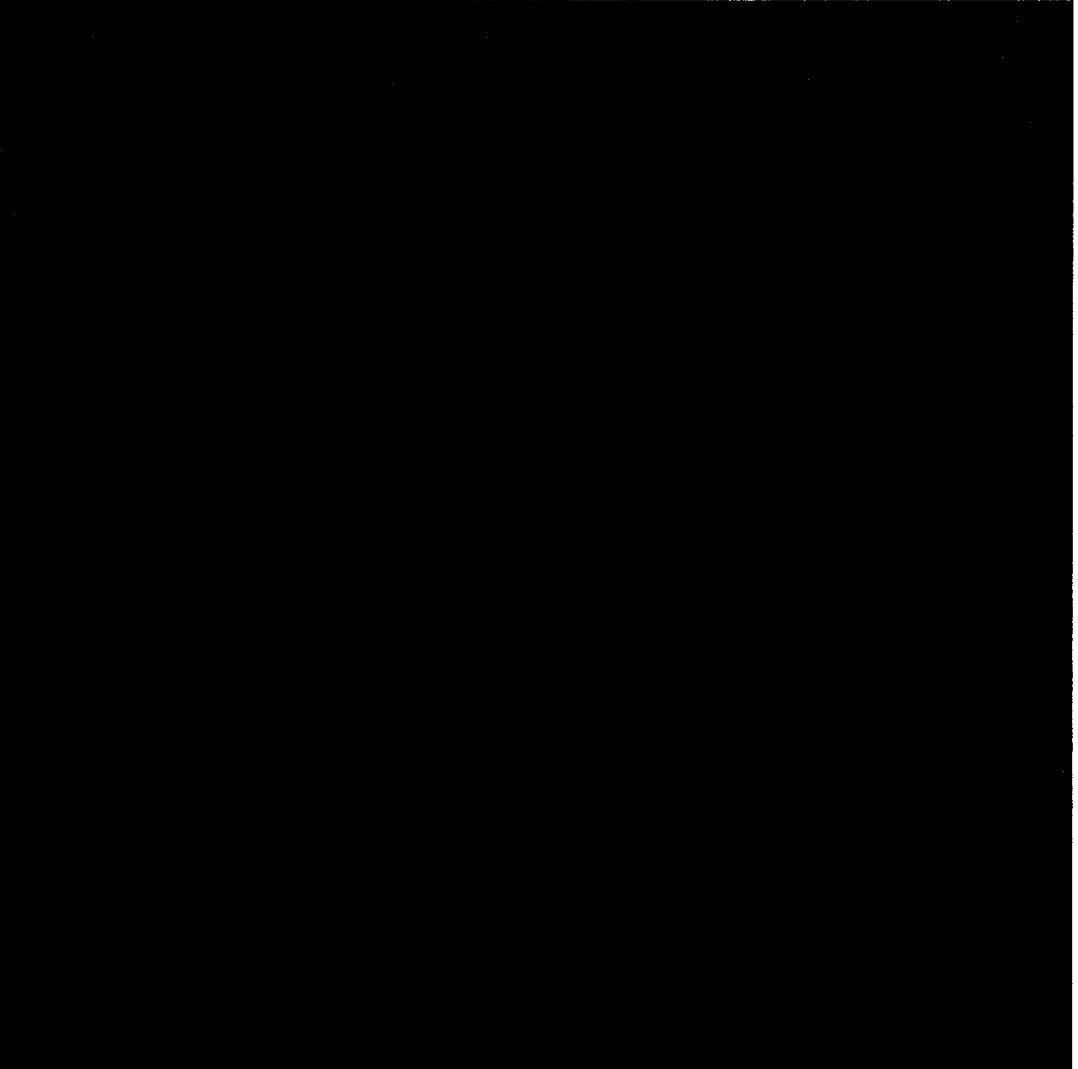
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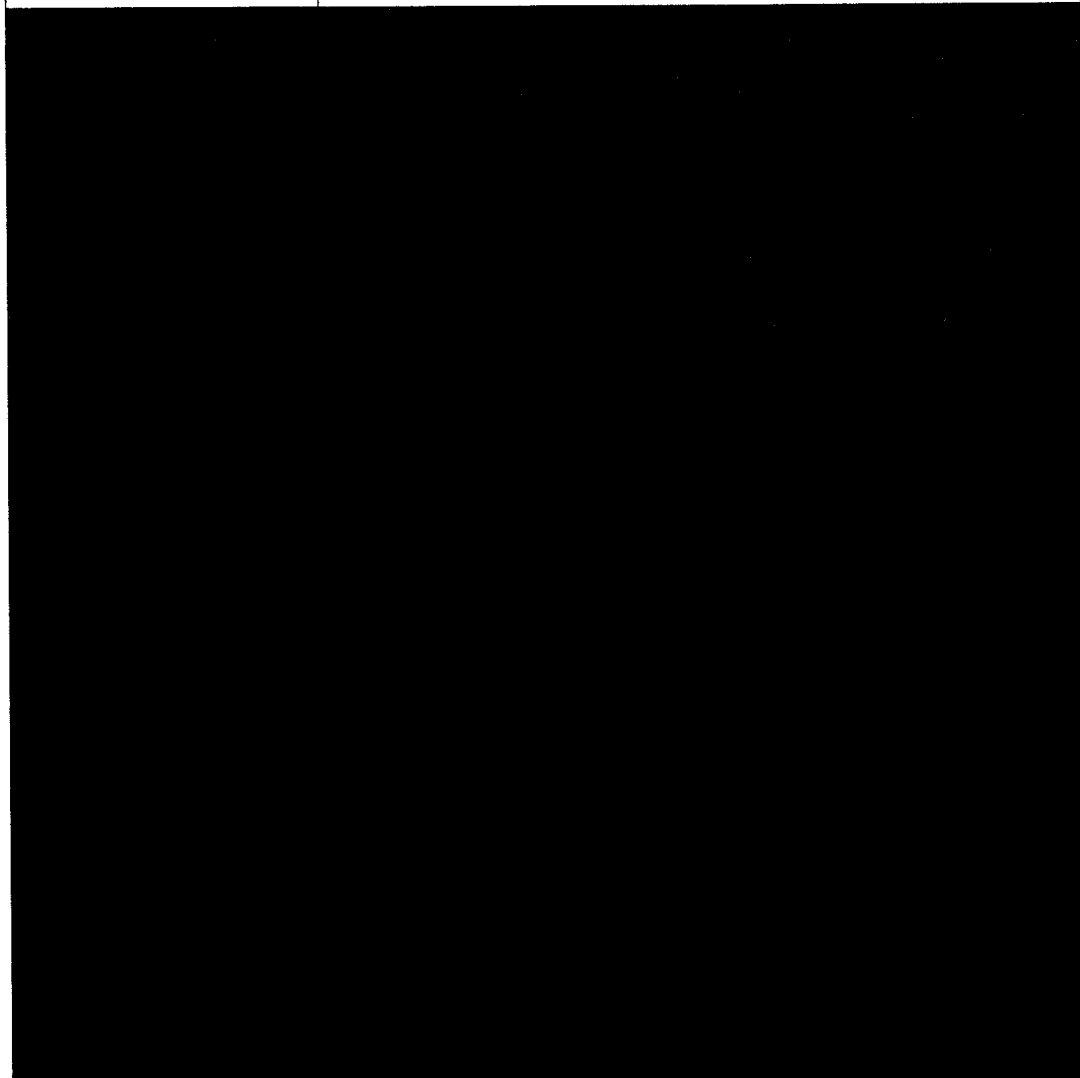
S-2	Strong authentication	

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S-3	Compliance with OCTO policies, guidelines, and procedures documented at: http://octo.dc.gov/octo/cwp/view,a,1302,q,579820,octoNav,%7C32782%7C.asp	

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S-4	Compliance with state and federal law statutes (especially FERPA and HIPPA) that protect the confidentiality of student, staff and user information	
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S-5	Connection monitoring		

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S-6	Data integrity checks	
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S-7	Data element level protection	
S-8	Encrypted connections (specify level of encryption)	

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S-11	Filtering	
S-12	Physical security of the service location	

S-13	Role-based security at the data element level for users	
S-14	(User) System Administrator capability to modify user roles and add user roles. (See System Administration.)	

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Operations Capacity

Narrative Response

Technical Architecture of the Solution

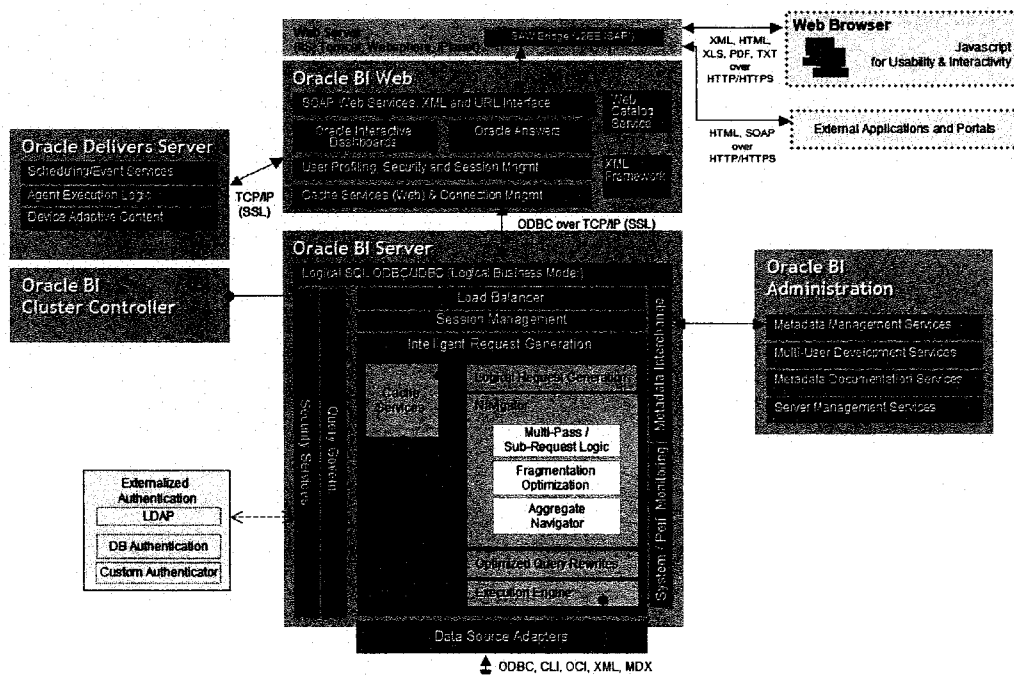
We are proposing a Maximum Availability Architecture (MAA) as the solution for the Production Environment to meet the requirements of 24x7x52 availability.

This will meet the High Availability requirements specified generally in the RFP and more specifically on page 32 *"DS – 6 Technical Provide a system that includes all Internet components that are available 24x7, 52 weeks per year"*.

MAA involves identically configured primary and secondary sites. The primary site contains multiple Database servers using Oracle Real Application Clusters (RAC) to protect from host and instance failures. The secondary site also contains similarly configured Database servers, and a physical standby database kept synchronized with the primary database with Oracle Data Guard across a dedicated network. Clients are initially routed to one of the nodes at the primary site. If an outage of one of the RAC nodes at the primary site fails, the clients are automatically failed over to one of the other nodes RAC cluster at the primary site. If a severe outage affects the data at the primary site, Data Guard quickly fails over the production database role to the standby database, after which clients are directed to the new primary database to resume processing. RMAN can be used to push database backups to tape to meet the off-site storage requirements.

The Oracle Business Intelligence Enterprise Edition (OBI EE) components for the Production environment will also be configured for High Availability using the BI Cluster Controller, which monitors the operation of servers in the cluster, including the BI Scheduler instances. The Cluster Controller is deployed in active-passive configuration. BI Servers in the cluster share requests from multiple Oracle BI clients.

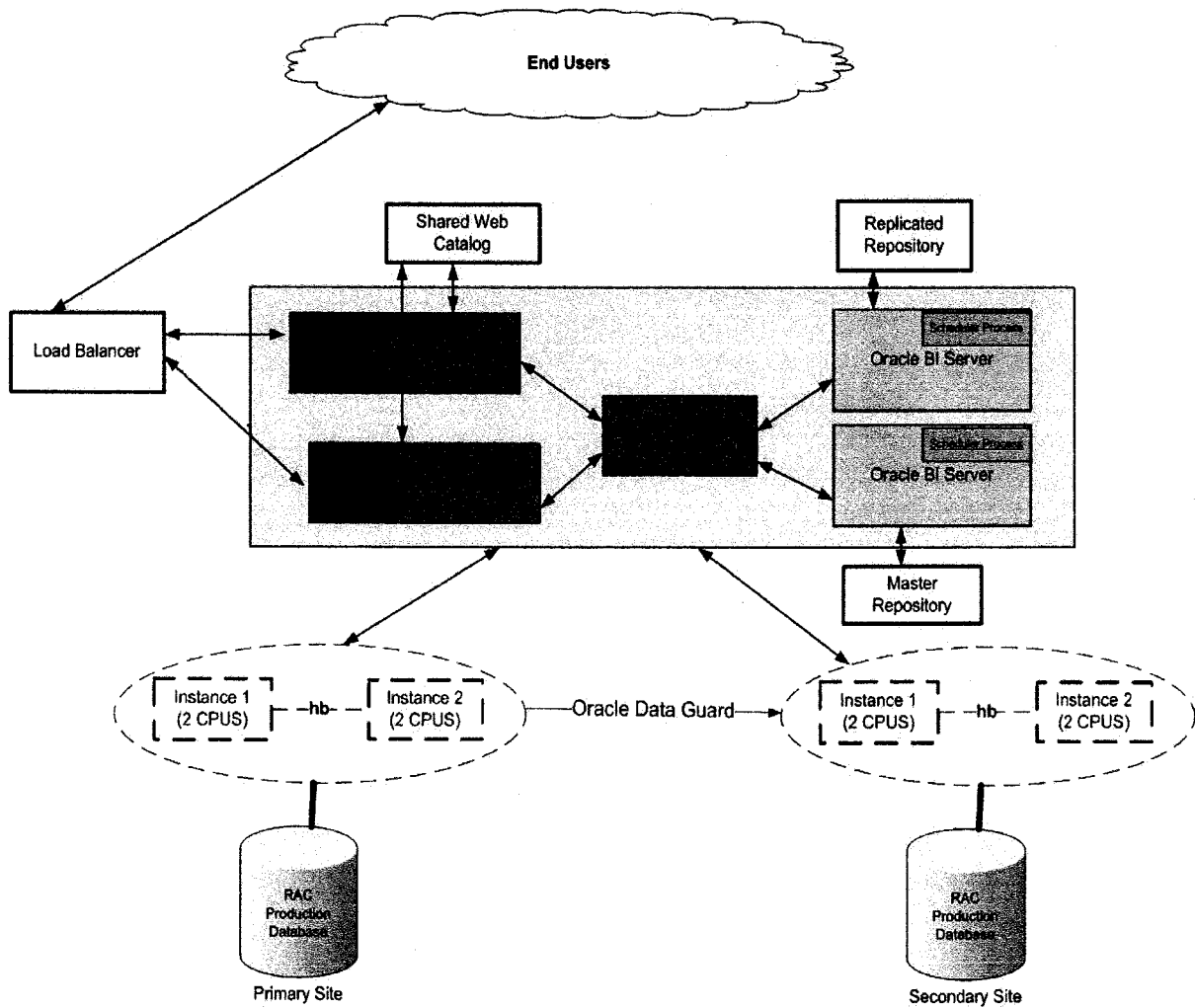
The following is a detailed view of the BI EE architecture. This shows the various data sources at the bottom, the BI server as the middle tier, and the BI Web Server, which drives the end user experience at the top tier. Also, it depicts the Delivers Server, which is the engine that drives proactive detection, intelligent workflow, and alerting capabilities in Oracle Delivers, and the BI Server administrator, where the BI Server and metadata is managed.



Some of the hardware requirements at both the Primary and Standby site would be:

- Multiple Business Intelligence Servers
- Multiple Database Servers
- Multiple Switches
- Shared Storage w/ RAID 0+1
- Multiple NIC cards to support RAC
- Multiple Paths to Storage (multi-pathing)
- Separate Tape system for backups to go offsite

Production -- Maximum Availability Architecture Proposed for DC Schools



The solution includes three environments—Development, Test and Production. Development and Test will be identical and not configured for MAA. **Only the Production environment will have the MAA described above.**

#	Environment	RAC Enabled?	Number of Nodes	CPUs	Memory	OBI EE—Clustered?	Number of Nodes	CPUs	Named Users
		Database				OBI EE			
1	Development	No	1	1	4 Gig	No	1	1	25
2	Test	No	1	1	4 Gig	No	1	1	25
4	Production (primary)	Yes	2	2 each	8 Gig	Yes	1	2	
5	Production (Secondary)	Yes	2	2 each	8 Gig	Yes	1	2	

Upon project commencement, we will work closely with the OCTO technical staff and propose the SLED storage requirements to OCTO WEB Applications or Server Operations departments, as our intent is to host the system within OCTO's data center. We understand that no standalone SANs are permitted in the data center. The SLED systems will be integrated into the enterprise SAN.

For the OBI EE server, Oracle does not recommend one single core CPU as a minimum configuration. The minimum recommended configuration is 1 dual core CPU. The system, with all its services demanding CPU resources, would find that one single core CPU would create bottlenecks in performance. The BI Server hosts the core analytics functionality (metadata fetch, request generation, physical SQL generation, sort-merge, etc.) required in order for end users to interact with the physical database(s). Multiple high-speed processors are recommended in order to efficiently process the data stored within the target database(s). As a "rule of thumb", It is assumed that the analytics (reports) being issued to the BI Server are of 'medium' complexity, referring to the number of database joins and the complexity of the calculations. These "rules of thumb" also assume that the OBI EE Metadata has been properly configured with the correct aggregation rules assigned to the respective calculated items or derived measures. It is important to reduce the amount of processing being performed by the BI Server, by pushing calculations (i.e. aggregate rules) down to the database server (and with its results being cached on the Analytics Server), where they will perform more efficiently because data does not need to be moved across the network. As a general rule, the OBI EE Cache Server should be enabled for all queries that do not directly access real-time data feeds. Cache will dramatically improve performance for queries and their respective dashboards and/or ad-hoc requests. This requires a high throughput disk I/O system.

A single dual core CPU (proposed for Development and Test) can support 250 concurrent users (or 2500 total users... assuming 10% of total users will be concurrent). Two CPUs (both dual core) can support 500 concurrent users (or 5000 total users... assuming 10% of total users will be concurrent).

Technology Components for the Solution

Our solution will use the following technology components:

1. Oracle Database Enterprise Edition
2. Real Application Clusters
3. Data Guard
4. Partitioning
5. Oracle Warehouse Builder Enterprise ETL
6. Oracle Warehouse Builder (OWB) -- Data Quality Option
7. Diagnostics Pack
8. Tuning Pack
9. Change Management Pack
10. Configuration Management Pack
11. Oracle Business Intelligence Suite Enterprise Edition Plus
12. Oracle Advanced Security
13. Oracle BI Management Pack
14. Oracle SOA Suite

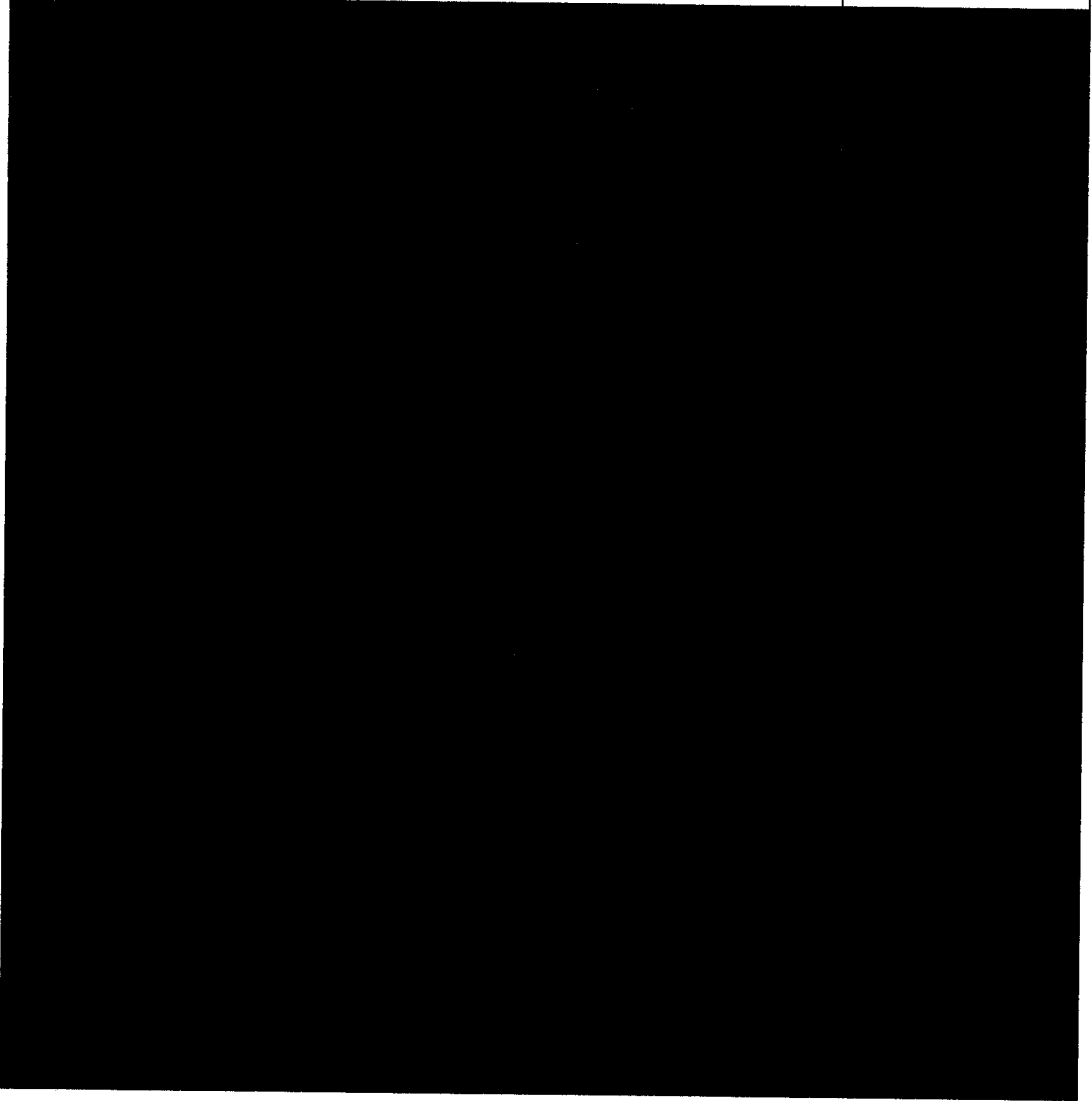
Optional Components (included as optional cost estimates)

- OLAP
- Data Mining
- Oracle Secure Backup
- Oracle Data Integrator
-

Tabular Response

OC Req. #	Requirement	Proposed Solution
OC-1	Handle peak loads at reporting times (submission of fall enrollment, release of report cards or District test results)	

OC-2	Meet periods of excessive demand on short notice
OC-3	Provide for an average response time of two seconds or less for users with adequate network connectivity, displaying a "Please Wait" or similar message when complex calculations require more processing time.



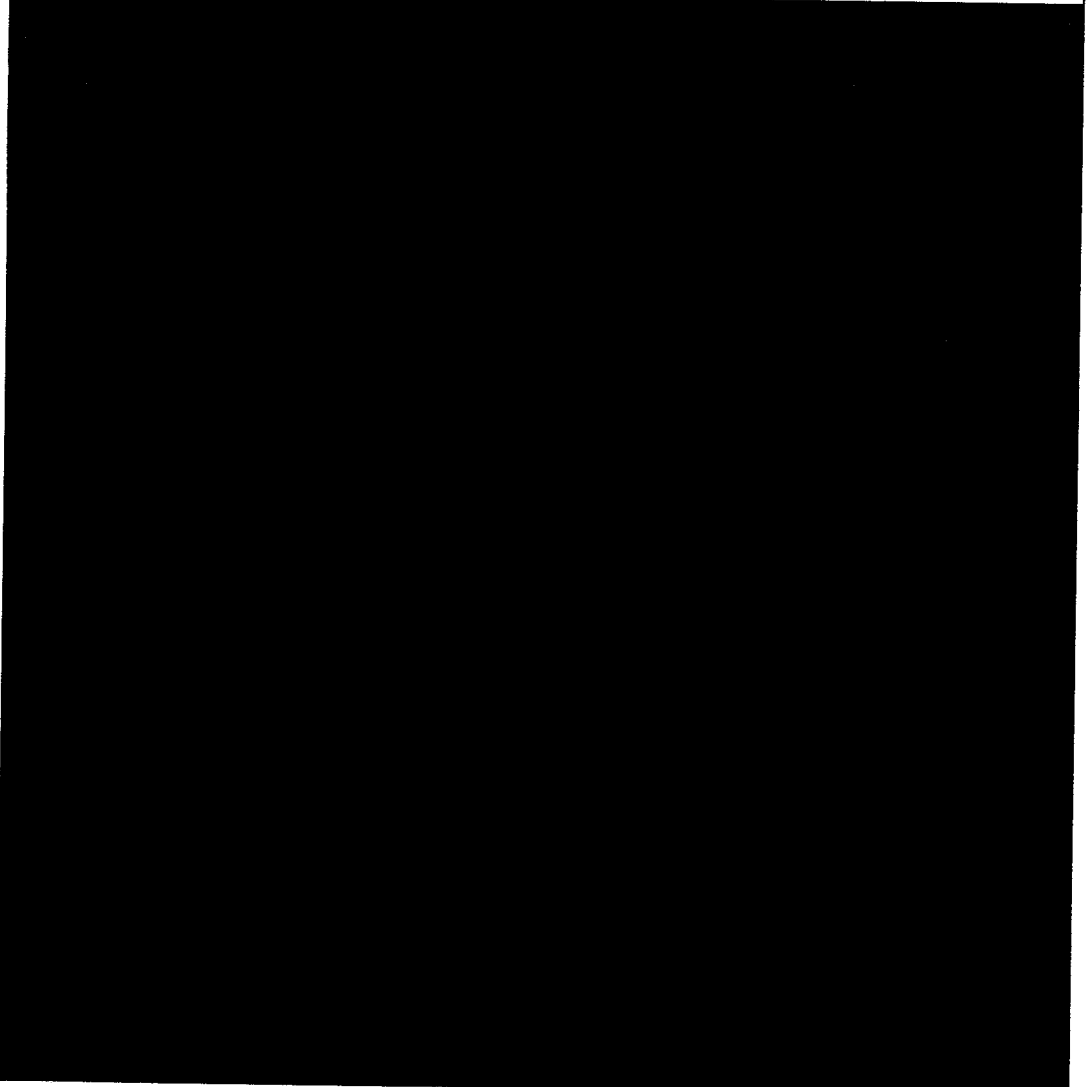
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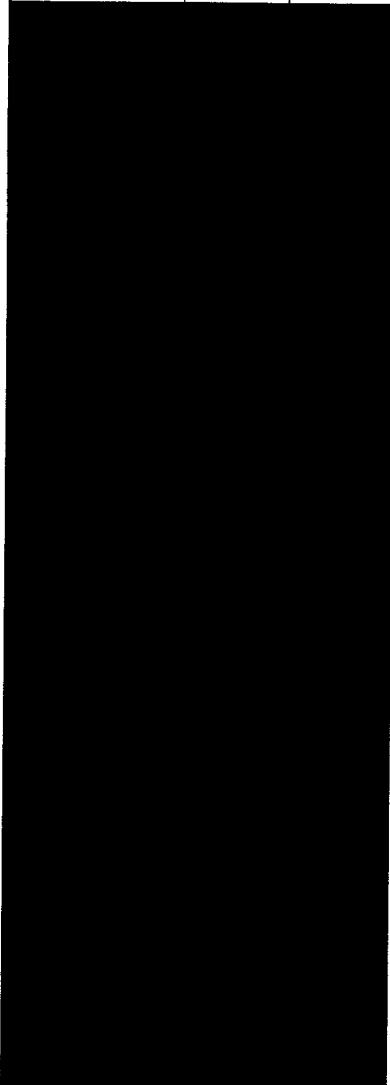
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1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

Subject Name:	First Name:
Exam:	ETH/USH LAW/ALICE ARTS

[illegible]

			
OC-4	Have a proven reliability rate greater than 99%.		

OC-5	Support 24x7x52 accessibility to reports/data by Internet end-users	
OC-6	Handle power, server, and Internet interruptions without loss of system and data integrity.	
OC-7	Store minimum of 5 years of student data (there are actually 75,000 students in DC. A growth factor of 3% per year shall be used to project capacity).	

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Sections Related to Aspects of the Technical Solution Not Described Above

Integration

Our solution will involve creating a single Oracle Database Instance that will house and integrate all components of the SLED System. The **State Longitudinal Data Warehouse (SLED)** will be the “flagship” of the SLED System and generally speaking will serve as the integration point. The SSID System for the **Unique Student Identifier (USI)** will be a persistent repository for the USI and will be a custom schema in the same Oracle Instance. SIF technologies will integrate and orchestrate the movement of data to and from the Student Information Systems. The **Student Tracking System (STS)** and the **Teacher Tracking System (TTS)** will be contained in the SLED and will be integrated using common semantic definitions. The **Direct Free Meal Certification Engine** will include the schema, data structures and program code to implement the Direct Free Meal Certification Engine and will be contained in this same Oracle instance. Oracle ETL tools will be used to integrate and match merge the data from the IMA and school systems. In summary, the longitudinal data warehouse, which will be a data system capable of tracking student information over multiple years in multiple schools, shall serve as the integration point for all of the information in the SLED System.

Providing Content Matter Experts in Education Policy

Team Oracle will comprise of the following participants:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

Our response team will categorize responsibilities and governance duties into the following major categories:

- Requirements and Roadmap
- Delivery
- Independent Reviewer
- Executive Oversight
- Change Management and Training
- Ongoing Support

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Team Oracle will provide content matter experts in education policy, system implementation, training, and change management to ensure that the program is used to its fullest potential by all users. For more details, please see the detailed write-ups of the partners comprising Team Oracle.

Ease of Use

Our solution will use Oracle Business Intelligence Enterprise Edition (OBI EE) as the reporting infrastructure. OBI EE platform supports today's requirements for robust, flexible, easy to use ad hoc reporting and also SLEDs's future requirements

Support for Secure Data Transfer and Numerous Data Format

We have proposed the secure transfer and exchange of data between the LEAs, OSSE, external agencies and OCTO using a number of file formats. Our solution for the **Unique Student Identifier (USI)** involves using SIF technology. The **Student Tracking System (STS)**, **SLED DW** and the **Teacher Tracking System (TTS)** will source data from the LEA's SISs using ASCII records (comma-delimited, tab-delimited or fixed length). The **Direct Free Meal Certification Engine** will source data from the District of Columbia Department of Human Services Income Maintenance Administration (IMA) via a secure FTP site. Please see the narrative sections of our response to these components for further details.

Hosting Options

We could use any of the three options listed in the RFP namely:

1. Contractor Hosting
2. OCTO Hosting
3. Combination of Contractor and OCTO hosting

. Oracle USA Inc., which is an integral part of "Team Oracle", offers hosting services. These are called Oracle On Demand.

Our solution proposes that the SLED system be hosted by OCTO in their data centre. The data that will be contained in the SLED will be sensitive data and hence will be under the purview of many laws such as the Family Education Rights and Privacy Act and Health Insurance Portability and Accountability Act of 1996. Using an OCTO hosted solution will make it easier from a process standpoint. While we have provided an option around Contractor Hosting above, we have not priced this option. If during the RFP Response evaluation process, the preference is to go with a Contractor Hosted solution, we will be able to provide cost estimates for Oracle On Demand.



Storage/Backups

Req. #	Requirement	Proposed Solution
1	Support on-site nightly backups	<p>We will work closely with OCTO and implement processes which are in synch with existing OCTO policies to support on-site nightly backups by using Oracle Recovery Manager (RMAN), a command-line and Enterprise Manager-based tool. RMAN is the Oracle-preferred method for efficiently backing up and recovering your Oracle database. RMAN can meet the specific requirement of nightly backups to either tape or disk. RMAN is designed to work intimately with the server, providing block-level corruption detection during backup and restore. RMAN optimizes performance and space consumption during backup with file multiplexing and backup set compression, and integrates with third party media management products for tape backup.</p> <p>RMAN takes care of all underlying database procedures before and after backup or restore, freeing dependency on OS and SQL*Plus scripts. It provides a common interface for backup tasks across different host operating systems, and offers features not available through user-managed methods, such as parallelization of backup/recovery data streams, backup files retention policy, and detailed history of all backups.</p>
2	Rotate backups weekly to a secure off-site facility	<p>We will work closely with OCTO and implement processes that are in synch with existing OCTO policies to meet this requirement. Our understanding is that a Backup solution is provided by OCTO Server Operations under managed services. OCTO data center currently uses "Storage Tech" netbackup. Also, OCTO currently backs up across OCTO data centers. As a result, backups are automatically off site. RMAN offers the ability to</p>

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		<p>backup directly to disk or directly to tape. It also has the ability to backup to disk and then move those backups off to tape, so that the latest backups remain on disk and the older backups are off on tape. RMAN allows for compression and encryption of backups to save on storage and secure the backed up data.</p>
3	Parallel processing for failover	<p>We will work closely with OCTO and implement processes that are in synch with existing OCTO policies to meet this requirement. Oracle Real Application Clusters (RAC) is an active/active cluster in which users connected to both servers are executing queries against the same database. RAC has the ability to failover the clients to an existing node in the cluster if the current server or instance they are connected to goes down for any reason. This is configured using the Transparent Application Failover (TAF) feature or through the use of Fast Application Notification (FAN) with Services. With the recommended parameters configured, the failover between nodes and instances will happen in less than the required 15 minutes. This architecture is described in details in other portions of this RFP response.</p>
4	Incorporate Disaster Recovery	<p>We will work closely with OCTO and implement processes that are in synch with existing OCTO policies to meet this requirement. Our understanding is that the District Government currently has two data centers that are used to do back ups across data centers and that disaster recovery and offsite backup processes and procedures are already in place. Oracle's disaster recovery solution for the database is a product called Oracle Data Guard. Oracle Data Guard is the management, monitoring, and automation software infrastructure that creates, maintains, and monitors one or more standby databases to protect enterprise data from failures, disasters, errors, and corruptions.</p> <p>Data Guard maintains these standby databases as synchronized copies of the production database. These standby databases can be located at remote disaster recovery sites thousands of miles away from the production data center, or they may be located in the same city, same campus, or even in the same building. If the production database becomes</p>

		<p>unavailable because of a planned or an unplanned outage, Data Guard can switch any standby database to the production role, thus minimizing the downtime associated with the outage, and preventing any data loss. With the appropriate parameters set, this transition can occur in far less time than the required 15 minutes of downtime. This Maximum Available Architecture (MAA) architecture is described in details in other portions of this RFP response.</p>
5	<p>Have a process for recovery that includes periodic testing</p>	<p>We will work closely with OCTO and implement processes that are in synch with existing OCTO policies to meet this requirement. Our understanding is that the District Government currently has two data centers that are used to do back ups across data centers and that disaster recovery and offsite backup processes and procedures are already in place.</p> <p>When implementing MAA architecture (RAC + Data Guard), there are many different options when it comes to recovery. Oracle Database, RMAN, RAC, and Data Guard, all have features that can help you recover the database or data you need to meet your requirements.</p> <p>The Oracle database offers automatic crash recovery in the case an instance crashes. Through the use of the Flashback Recovery Area, the database can be flashed back to a previous point in time. RMAN has the ability to recover data from backups and roll forward through the logged changes up to any point in time. RMAN offers a variety of options to optimize backup and restoration. RMAN also offers the ability to validate that the necessary backups are available and healthy to restore without actually restoring. RAC has the ability to fail over users and sessions to existing nodes and either continue processing the “read” query or rollback the “write” query. This will happen automatically when TAF is configured correctly. When using Data Guard, the physical standby database can be recovered and opened as the primary database in the case of a disaster. All of these recovery scenarios can and should be tested and documented.</p>

Independent Project Oversight/Review

Description/Background




- a Steering Committee and structured ownership for the project
- an established process for identifying and escalating issues related to the project
- regular updates and status to the key stakeholders

Major Activities/Deliverables



- Establish OSSE Steering Committee for the project
- Establish organization chart for the overall project
- Conduct bi-weekly meetings of the Steering Committee
- Conduct monthly updates to the Data Quality Coalition
- Conduct quarterly updates to the Data Policy Committee
- Develop agendas, capture minutes and maintain issues log for each session

ASSUMPTIONS:

- Bi-weekly status meetings will be scheduled for the duration of the project – once per month onsite, otherwise via teleconference
- Monthly status meetings with the Data Quality Coalition – onsite
- Quarterly status meetings with the Data Policy Committee – onsite
- Data Quality Director will take on the role of leading the Data Management Committee
- 
- Inventory is at the data category and source system level – i.e. high level inventory

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Support Services

Cultural Change

The integrated SLED systems demand a change in the way that the business of education is done in the District. The technology provides the means for making these changes, but it must be joined with a matching effort to affect the culture of education in the District. We will train OSSE and OCTO resources and appropriate DCPS resources as well in the theory and practice of data driven decision-making in education.

Data driven decision-making requires that the tools that make that data are available to decision makers and a consistent, comprehensive approach to maintaining data integrity thought the system. Data integrity cannot be left to a small group of "data experts." It must and will become the responsibility of every user to make sure that integrity is preserved. To achieve that goal, users need to understand what the system does and how data affects people and decisions. Achieving that understanding is a high objective of the Change Management Team.

The approach outlined in the Change Management section below outlines how our team will implement best practice approaches to training, communication, skills assessment and development, creating a data culture and navigating the issues of inter-organization needs and conflicts.

The District has already deployed systems that require diverse agencies with different agendas to cooperate in managing an important system. The PeopleSoft HRMS and Payroll system provides a model for organized governance that spans independent agencies like OCFO and separate agencies under the mayor's authority like OCTO and DCHR. By creating a change control board (CCB) and clear, documented governance procedures, we will create a path to successful governance across the diverse stakeholders and agencies of the government.

Change Management

Projects succeed when the operations of the systems implemented by the project can continue without the project team that built them. Knowledge transfer from the project team to the permanent team is the key to successful transition.

Knowledge transfer occurs on two fronts: to the users who make decisions based on the system and to the technical team that maintains and preserves the system. In both case, understanding the technology, having the skills to use it and the documentation required to do what is needed when it is needed will bring success.

Much of the change management effort will focus on end users and their needs. Without the technical support that keeps the system operational, these end users will be out of business. Therefore, Team Oracle will provide consistent knowledge transfer on both formal and informal bases.

We will provide:

- Shoulder-to-Shoulder informal knowledge transfer throughout the development lifecycle
- Formal Knowledge transfer sessions
- Written standard operating procedures
- Training and Training Materials
- Operational Run Books on how to operate the system

As each new component system goes live, a detailed transition plan will be provided. These plans will include required actions, timelines, roles and responsibilities, contingency plans, and any other required documentation to insure that the transition is clear, smooth, and well understood.

New Methods of Education Decision Making

The implementation of the SLED systems represents a revolutionary change in the way the District of Columbia goes about the business of educating students. This change reflects new priorities in transparency into the operations of government and the schools, accountability for results, and the desire to make well-founded decisions on the basis of real, useful and understandable data about happens in our schools.

Data driven decision-making bases choices on measurable results and measures the results of choices made. Prior to implementing a SLED system, such decisions are by necessity made without clear knowledge or understanding. Changing the method by which decisions are made is a fundamental change in the way things are done. Such an effort requires a significant and thorough change management effort to prepare users for the new ways of getting the job done.

We present in the following paragraphs the technical means by which we undertake the process of guiding this change. The methodology is well known and is as follows:

- Create **Awareness** of the system, its purpose, objectives and how it will likely impact them and the work they do
- Cultivate a **desire** for the benefits of the new systems in users who understand the value it brings to their work
- Transmit the required **knowledge** the users will need to understand and use the system. Often this step requires identifying gaps in previous knowledge and bringing users up to the starting level for understanding a new system

- Develop the skills and **ability** required to use the system in the course of doing business
- **Reinforce** the desire, knowledge and skills required after the system goes live to insure that everyone can realize the maximum benefit from the system.

Training, Change Management and Post-Implementation Approach

The next three sections (1, 2, & 3) cover the Training, Change Management and Post-Implementation Support.

A Training Plan and a Change Management Plan detailing the approach and the specific tasks with the due dates will be delivered to the project sponsor within 30 days of the commencement of work. The Post Implementation Support Plan will be delivered within 90 days.

In addition to these documents, Team Oracle will prepare a Change Assessment Report for each system component (USI, USDA Cert, STS, TTS, SLED), which will contain the following sections:

- A list of all business process changes that impact users identified by module
- An impact assessment (severity: high, medium, low) and statement of impact for each change
- Identification of which user community or communities are affected by this change

The Change Management and Training Teams will identify groups within the SLED user community. Listed below are groups whose needs we expect to address as part of the Training and Change Management efforts. We will identify all required groups as part of our preparation efforts.

Expected Groups:

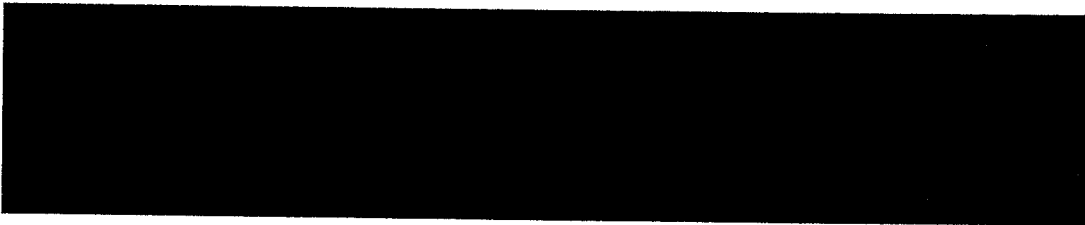
- OSSE
- OCTO Technical Resources
- OCTO Tech Support
- District Trainers (OSSE or OCTO TBD)
- Tier 1 Help Desk
- Tier 2 Help Desk
- DCPS Teachers
- DCPS Administrators
- DCPS Executives
- Charter School Teachers
- Charter School Administrators
- Charter School Executives

- Local Champions/Advocates

SLED Users may participate in one or more of these groups. All training, change management and communication efforts will take into consideration which groups need which specific communication, training, presentation and information. As part of the identification process, we will develop a listing of which specific users fall into which groups. We will use these group lists in conjunction with District mailing list management software (Lyris List Manager) to enable the Functional Team to target appropriate invitations and communications to the correct, targeted groups.

As a part of the Change Management Plan, Team Oracle will outline all anticipated communications, trainings and presentations for each user group. The Change Management Plan will also include the specific timings for all messages, trainings and communications. The scheduling information will be consolidated into the master project plan along with dependencies and resource allocations. Each item listed on the Change Assessment Report will be included in a matrix showing the manner in which each change will be communicated and to which communities.

1. Training Approach



a. Training Materials

Team Oracle's Trainers and SMEs will work diligently to document the key changes and impacts caused by SLED. Team Oracle will also create and catalog all the various training documents required. We will leave the District with this catalog so that they can continue to track the various training documents and their versions. Our team will also create or update other material such as reference guides, job aides, procedures, and technical designs/run-books. We intend to work closely with our District Project Sponsors and provide them with the ability to review each document as we complete it.

Team Oracle understands the importance of providing the entire user community the ability to learn about the SLED systems and their key benefits. Our training model depends on making training materials and training opportunities easily available. We plan to provide all training materials and reference documents on the DC or DCPS intranets.

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In addition to published training and support documents, some materials will be prepared for presentation on the web as either a Live Meeting or as a recorded Live Meeting available for users who want to review training sessions. The extent of the materials made available and the number and types of online presentations will be part of the change management and training plans delivered after the start of work.

b. Train-the-Trainer

Team Oracle's trainers will work collaboratively with OSSE in creating the training materials for each component system at the start of the project. The actual training effort needs to take into account the different users, their normal job responsibilities and the times they have available for training. Scheduling and training logistics will be handled by the Change Management and Training teams.

Since the number of potential end users of the integrated SLED system may be quite large, we recommend a two part approach: first, to train a selected group of trainers and second, a selected group of local "champions" or advocates. The identification of District trainers will occur in cooperation with the various stakeholder organizations. Trainers who will be responsible for training end users at locations close to their place of work. They will focus on delivery of formal training for the majority of end users. We also recommend that some permanent OSSE employees be part of the training effort to insure a more complete knowledge transfer to District resources who will be responsible for managing and executing ongoing training after the project has ended.

Train-the-Trainer sessions will be scheduled and executed prior to the classroom based training. Once the District trainers are comfortable with each SLED system, our training team will include them as co-facilitators during the classroom sessions. Our team will ensure that each SLED trainer is comfortable with training on the new systems and thoroughly understands the benefits of the SLED project.

c. Training Execution

Since the SLED system and its components all introduce new tools and capabilities to the District, training will play a key role in the success of the system. Large systems that widely affect business processes can have a long adoption period when change management and training efforts are undertaken late in the process. We strongly recommend that organizational and business process change management efforts and training begin as early as possible.

Given the large number of potential SLED users, we do not plan on providing classroom style training for each potential end user from project staff. Among the SLED users, a select group of approximately 1000 users will receive hands on training from the project staff. Team Oracle expects that group to be composed of

- All OSSE staff and relevant OCTO staff
- Key users in the organizations and the schools
- SLED Trainers
- Help Desk Resources
- Others identified during the development of the Training Plan

Team Oracle will execute classroom training similar to the way it is currently being executed by previous projects. We will schedule training rooms at schools or other District buildings to provide the sessions.

Training will be role based and will focus on identifying changes to business process, educational impacts of the SLED data and the how to of using the actual systems.

The Team Oracle trainers will use the Change Assessment Report to ensure that the correct users get the correct training. SLED users who need basic or more advanced training will receive both in a single, longer session. We intend to minimize the training time to the greatest extent possible to reduce the impact on District employee's other duties.

All trainees will be asked to complete a post training assessment to collect information on the quality of the training and the users' perceived satisfaction with the sessions. We will provide reporting to the SLED management team on these assessments as desired.

Training registration will be handled by the Functional Team. As part of the preparation for training, the Functional Team will develop an attendance management system to monitor absences from scheduled training. We will work with the SLED system management staff to develop a notification and escalation procedure to ensure that users get the training they require. We will maintain and provide periodic reporting of attendance metrics as required by the SLED management team

The Training Team will schedule classroom spaces appropriate to the number of users identified as needing hands-on training in the training plan. To accommodate absences and make-up sessions, we will plan on classrooms for 120% of expected trainees.

d. Preliminary Training Projection

A detailed Training Plan including the above mentioned activities and additional supporting tasks will be created and delivered for review within 30 days of project commencement. Each category of users will require different training and communications methods to achieve the goal of an informed and capable community of users. Team Oracle will develop detailed planning and scheduling as part of the initial training and communication plan. We have indicated below our expectations on what needs and methods may be appropriate to each user type.

Basic Users

- Large, unknown number of infrequent users
- Outreach Training/Methods
 - Downloadable instructions/documentation
 - On line help
 - System ease of use

Basic Student Users

- 225,000 Users able to view personal data
- Outreach Training/Methods
 - School by School Open House/Demo
 - Train Power Administrators to do Demos
 - Downloadable instructions/documentation
 - On line help
 - System ease of use

Power Users

- 19,500 Users able run reports and conduct ad hoc analysis
- Outreach Training/Methods
 - Classroom training for approx 2800 by project team (12 per school)
 - Local classroom training by Power Admin/Trainer for remainder
 - Downloadable instructions/documentation
 - Job Aid/Quick Reference Guides
 - On line help
 - System ease of use

Power Administrators

- 500 Users able to use advanced features and support local basic, basic student and power users (approx 2 per school)
- Special Subset of this group should be capable of providing basic user and basic student user training in Spanish
- Outreach Training/Methods
 - Presentation on Training on Doing Basic User Demos
 - Train-the-trainer sessions on giving Power User Training
 - Classroom Training on Power Admin features
 - Downloadable instructions/documentation
 - Job Aid/Quick Reference Guides
 - On line help
 - System ease of use

LEA Direct Meal Certification Users

- Up to 10,000 users able to view categorical eligibility results of Direct Meal Certification Matching
 - Outreach Training/Methods
 - School by School Open House/Demo
-

- Train Power Administrators to do Demos
- Downloadable instructions/documentation
- On line help
- System ease of use

Report Developers

- Technically advanced user responsible for creating new reports
- Outreach Training/Methods
 - On the job training with project team
 - Operational Run-books
 - System Documentation
 - Offsite Oracle Technical Training if necessary (not included in cost proposal)

Help Desk (Tier 1 & 2)

- DC FTEs responsible for supporting users after project ends
- Outreach Training/Methods
 - On the job training with project team
 - Operational Run-books
 - System Documentation

System Administrators

- Technically advanced user responsible for administering the system
- Outreach Training/Methods
 - On the job training with project team
 - Operational Run-books
 - System Documentation
 - Offsite Oracle Technical Training if necessary (not included in cost proposal)

2. Change Management Program

To fully maximize the benefits of the SLED systems, a proper change assessment must be made. The SLED user community needs to be informed that a change is coming, what the changes are and how the changes will affect them. The change management effort must clearly communicate these objectives. The preparation of the Change Assessment Report and identifying the various SLED user communities will lay the foundation for the overall Change Management effort.

We will develop a detailed Change Management Plan within 30 days of the project commencement. The plan will be formulated using the Change Assessment Report and will cover all change management communications to all audiences and will be tied to the overall project plan.

a. Communication

Communication is the cornerstone of any change management effort. Where possible, communications will piggy back onto existing means for reaching SLED users (newsletters, meetings, in-service trainings, etc.) Team Oracle will develop a series of email communications briefly recapping important information. We also understand that sometimes important emails can go unread in a taxing work environment, thus we will also be inviting users to special live 'SLED Information Sessions' that will cover the upcoming changes and the impact on users and business processes.

The 'SLED Information Sessions' will be interactive presentations accompanied by MS PowerPoint slides. We will expect the duration to be no longer than one hour and no less than 30 minutes. The exact content and duration will depend on the change assessment report. A shorter executive version may be prepared if necessary.

The purpose of these 'SLED Information Sessions' are to sell the benefits and new functionalities each and all the systems, convey the reasoning behind the implementation, and to address any concerns or objections that users may have to the process. These presentations will be held on a schedule compatible with user's duty schedules and in locations as convenient as possible to the users. If required, some live sessions may be conducted over MS Net Meeting to allow those users in remote locations to be able to interact with the presenter. Both PowerPoint slides and recorded meetings can be made available on the DC website for those who can not attend a live presentation

Since formal presentations do not always create an environment where people can voice their individual concerns, we will also host a number of less formal 'SLED Open House' Sessions where users can see and feel the system prior to go live. In the

open house setting, users who visit will have a chance to speak with someone who can address their concerns. To the greatest extent possible, we will make these sessions easily accessible to users by locating them across the city (e.g. 441 4th, Wilson Building, Reeves Center, UDC, etc.)

b. Agency Outreach

Within each agency there are a number of key influencers who will shape the opinions of their co-workers about the SLED system. These 'Champions' or advocates will be identified by the Change Management Team and they will also reach out to them. Once identified, Team Oracle will coordinate organization or school specific meetings to share information and address any concerns or issues. Meetings may include more than one school depending on the school size and time allocated. Sharing information and preparing these 'Champions' will create local advocates within each school which should smooth the transition to the new system.

c. User Readiness

Team Oracle's team will conduct a limited series of Pre Go-Live Readiness Sessions that will give concerned users a final opportunity to get comfortable before each system cutover. These may be combined with the abovementioned sessions, but will be tailored to address readiness issues before go-live. If needed, our team will also go on-site to work with users to ensure they are prepared for the go-live.

d. User Acceptance Testing

Team Oracle practices integration between teams as a means of improving overall project quality. For SLED, our Testing and Change Management teams will work together to facilitate User Acceptance Testing (UAT) that is meaningful to the implementation as a whole.

The Change Management Team will develop a list of key District personnel who will take part in UAT. The Testing Team will develop UAT test cases for execution by these select users. The UAT cases will represent sample, real world uses of the tested system that are common or useful for demonstrating SLED's capabilities. The UAT will be conducted jointly by the Testing and Change Management Teams.

e. Documentation

While a complete documentation catalog will be developed as a project deliverable, we anticipate the following documents will be delivered:

Documentation List

- Basic User Guide
- Basic Student User Guide

- Basic User Guide (Spanish)
- Basic Student User Guide (Spanish)
- Direct Meal Certification Guide
- Direct Meal Certification User Guide
- Power User Standard Reports Guide
- Power User Ad Hoc Reporting Guide
- Power User Classroom Training Workbook
- Giving Basic Student User Demos Guide
- Giving Direct Meal Certification Demos Guide
- Trainers Handbook for Presenting Power User Training
- Power User Job Aid/Quick Reference
- USI/STS Problem Solving Guide
- TTS Problem Solving Guide
- Understanding SLED Data Guide
 - Data Basics: Assessments, Data Types and Sources, Understanding Needs
 - Challenging Assumptions: Developing Data Based Action Plans
 - Check Your Work: Reviewing Actions and Results

Our team will continuously provide metrics on the number of sessions held and the number of users contacted. These statuses and metrics will be included in our weekly status report and will be made available to all interested stakeholders.

The Change Management and Training Teams will be available to repeat, reinforce and/or update any training materials if issues arise post go-live.

3. Post-Implementation Support

Having worked with ASMP since 2002, Team Oracle understands the user community and the importance of a solid post-implementation support model. The support of the user community after an implementation or upgrade often defines the success and overall perception of the project.

Team Oracle will collaboratively work with both Tier 1 and Tier 2 resources prior to Go-Live to create a feasible plan and support structure. All materials will have been updated and reviewed with the Tier 1 and 2 resources, as mentioned in *Training Materials* under the **Training Approach Section**. Team Oracle understands that the need for additional resources may exist for post-implementation support. Our Project Manager will work with the District's Program Sponsor to assess how many additional resources are needed for post implementation support. Team Oracle will use the Change Assessment Report to assist in ramping up the additional resources.

Team Oracle will work on-site (441 4th Street) with the Tier 1 and 2 resources, but will also have a team that will travel to the various school locations and work with the user community at their workplace. Team Oracle will work with the Program Sponsor to determine the criteria for when agency support is warranted.

4. Resources

We anticipate the need for a variety of specialized skill sets as part of an integrated change management and training team. We intend to deploy three teams under the direction of a change management lead. The Business Process team will focus on working with OSSE and the technical teams to identify changes (change assessment), develop and document business processes and perform role mapping and documentation of responsibilities. They will work with SEA and LEA resources on creating the actual changes. The Communication team will be responsible for outreach communications including newsletters, emails, live presentations and outreach events like the open houses. The Training team will develop and catalog training materials, arrange training logistics and provide initial and advanced training to key users. They will also serve as a cadre around which the train-the-trainer program will be built.

The Business Process team consists of a business process design lead and two business analysts who will start work as soon as the project begins and roll off when the business process design work has been completed. The Communication team consists of a Communications lead, a Technical Writer and up to two additional Technical Writers as required for peak periods in the project plan. The Communication team will stay on the project for the entire lifecycle although staffed at levels appropriate to the work at hand. The Training team consists of a Lead Trainer, a Training Materials developer/trainer, a Training Coordinator responsible for logistics and up to three additional trainers as required for peak periods in the project plan.

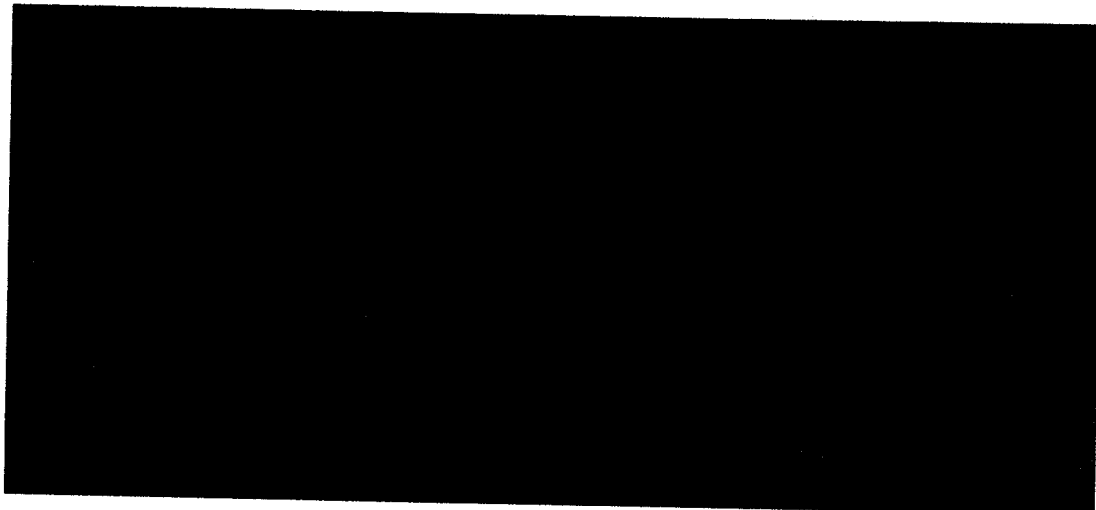
To keep these resources coordinated and to align the various skills with the overall project objectives, we will also deploy an overall change management lead with a strong background in coordinated change management operations.

5. Change Management Plan Key Assumptions

- District Government will provide hands on computer classroom space at District facilities for classroom and train the trainer sessions.
- DCPS schools have an onsite classroom or classrooms usable for training
- Power Administrators can be excused from normal duties for training sessions
- Power Users trained by project team can be excused from normal duties for training sessions

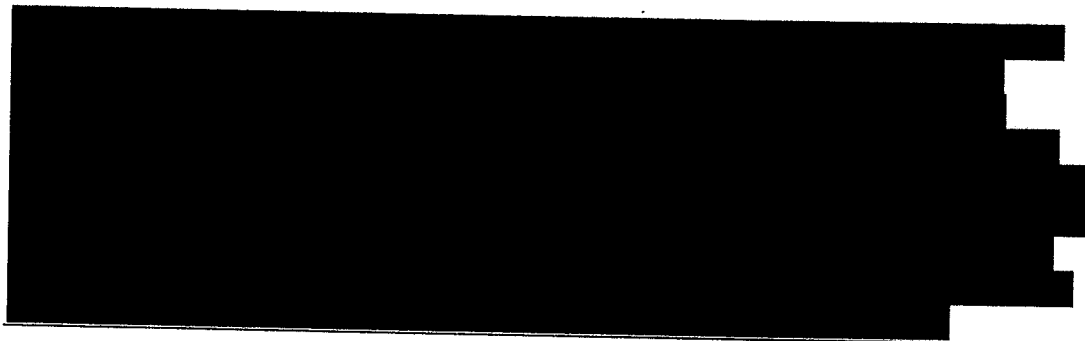
- Power Users trained at their schools are trained outside of classroom duty time (e.g. in service training days etc)
- Educational Policy content will be developed/provided by OSSE (SEA) and provided in a timely manner to training developers
- From 1-12 key power users can and will be identified per school as local champions/SLED advocates. These champions will be available for advanced training and can act as trainers for other resources in their school.
- Classroom training will be performed with a planned student teacher ratio of 12:1. Seat planning will assume 10 students per session.
- Basic Users Open Houses will last approx two hours
- Hands on Power User Trainings will last approximately 8 hours
- Power Admin Training will last approximately 12 hours

Systems Governance:



Technical Support

Background:



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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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Hardware

For the purposes of this project, we have included Dell hardware sufficient to support the solution in the pricing.

PC Net, our LSDBE partner is a Dell Partner and will procure the Dell hardware required for this effort.

GROUP: 1	QUANTITY: 2	
Base Unit:		Dual Core Xeon 5160 Processor 4MB Cache, 3.0GHz, 1333MHz FSBPE2950 (223-4926)
Processor:		Dual Core Xeon 2nd Processor 5160, 4MB Cache, 3.00GHz 1333MHz FSB, PE 2950 (311-6222)
Memory:		8GB 667MHz (4x2GB), Dual Ranked Fully Buffered DIMMs (311-6197)
Keyboard:		No Keyboard Selected (310-5017)
Video Card:		Broadcom TCP/IP Offload EngineNot Enabled (430-1765)
Video Memory:		Riser with 3 PCIe Slots for PowerEdge 2950 (320-4607)
Hard Drive:		146GB 15K RPM Serial-Attach SCSI 3Gbps 3.5-in HotPlug HardDrive (341-3031)
Hard Drive Controller:		PERC6i SAS RAID Controller, 2x4 Connectors, Int, PCIe, 256MB cache, x6 Bkpl (341-5734)
Floppy Disk Drive:		No Floppy Drive for x6 Backplane (341-3685)
Operating System:		Red Hat Linux 4.5AS 3 Year RH Network Subscription, Not Factory Installed, DIB, With M (420-7813)
Mouse:		Mouse Option None (310-0024)
NIC:		Embedded Broadcom NetXtreme II5708 GigabitEthernet NIC (430-1764)
Modem:		Dell Remote Access Card, 5th Generation for PowerEdge Remote Management (313-3923)
CD-ROM or DVD-ROM Drive:		24X IDE CD-RW/DVD ROM Drive for PowerEdge 2950 (313-3934)
Sound Card:		Bezel for PE 2950 (313-3920)
Speakers:		1x6 Backplane for 3.5-inch Hard Drives (311-7936)
Cable:		5M MULTI-MODE FC CABLE LC-LC Tyco (310-5625)
Documentation Diskette:		Electronic Documentation and OpenManage CD Kit, PE2950 (310-7415)
Additional Storage Products:		146GB 15K RPM Serial-Attach SCSI 3Gbps 3.5-in HotPlug HardDrive (341-3031)
Controller Option:		Qlogic 2460 4GB Optical Fiber Channel HBA, PCI-E Card (341-4606)
Factory Installed Software:		Power Path ENT Linux Workgroup (420-2476)
Feature		Integrated SAS/SATA RAID 1, PERC 6/i Integrated/SAS6/iR (341-5722)
Feature		Universal Sliding Rapid/Versa Rails, includes Cable Management Arm (310-7412)
Service:		Premier Enterprise SupportService Gold Welcome Letter (310-3785)
Service:		GOLD Enterprise Support: 4 Hour 7x24 Onsite Service with Emergency Dispatch, 2 YR Ext (960-8322)
Service:		GOLD Enterprise Support: 7x24 Escalation Manager, Hw/Sw TechPhone Support, Enterprise Command Center, 3Yr (960-8572)
Service:		GOLD Enterprise Support: 4 Hour 7x24 Onsite Service with Emergency Dispatch, Init YR (970-4190)
Service:		Dell Hardware Warranty Plus Onsite Service Initial YR (984-1399)
Service:		Dell Hardware Warranty, Extended Year(s) (984-1417)

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Installation:	On-Site Installation Declined (900-9997)
Misc:	Redundant Power Supply with Y-Cord (310-9897)
Misc:	Qlogic 2460 4GB Optical Fiber Channel HBA, PCI-E Card (341-4606)
Misc:	5M MULTI-MODE FC CABLE LC-LC Tyco (310-5625)
Misc:	Intel PRO 1000PT Single Port 1GbE NIC, PCIe (430-0955)

SOFTWARE & ACCESSORIES			
Product	Quantity	Unit Price	Total
Enterprise Assistance, 1 Pack,1Year (986-4939)	2		

Sections Related to Policies and Procedures Governing the Response

Small business set aside



Williams, Adley & Company, LLP

Description: Management Consultants/CPA's
Principal Owner: Tom W. Williams, Jr.
Contact Name: Terri Lawson
Address: 1250 H STREET NW, 1150, Washington, DC 20005
Phone: (202) 371-1397
Fax: (202) 371-9161
Email: TLawson@dcwacllp.com
Website URL: www.wacllp.com
Date Established: 9/1/1982
Organization Type: Partnership
Ward: 2

Certification Information

Expire: 1/11/2010
CBE Number: LSZ17784012010
Preference Points: 7 (2 for LBE; 3 for SBE; 2 for DZE)

Authorized Negotiators

Kola Isiaq, CISA CPA, Managing Partner
1250 H. St NW Washington, DC 20005
Office 202.371-1397
Email: kisiaq@dcwacllp.com

Type of business organization

Partnership

Legal status

LSDBE - Professional Services Firm

References

Team Oracle has enclosed 2 References that mirror the scope and size of this effort.

1. State of TN and
2. Los Angeles, CA School District

Appendix 1: Reports

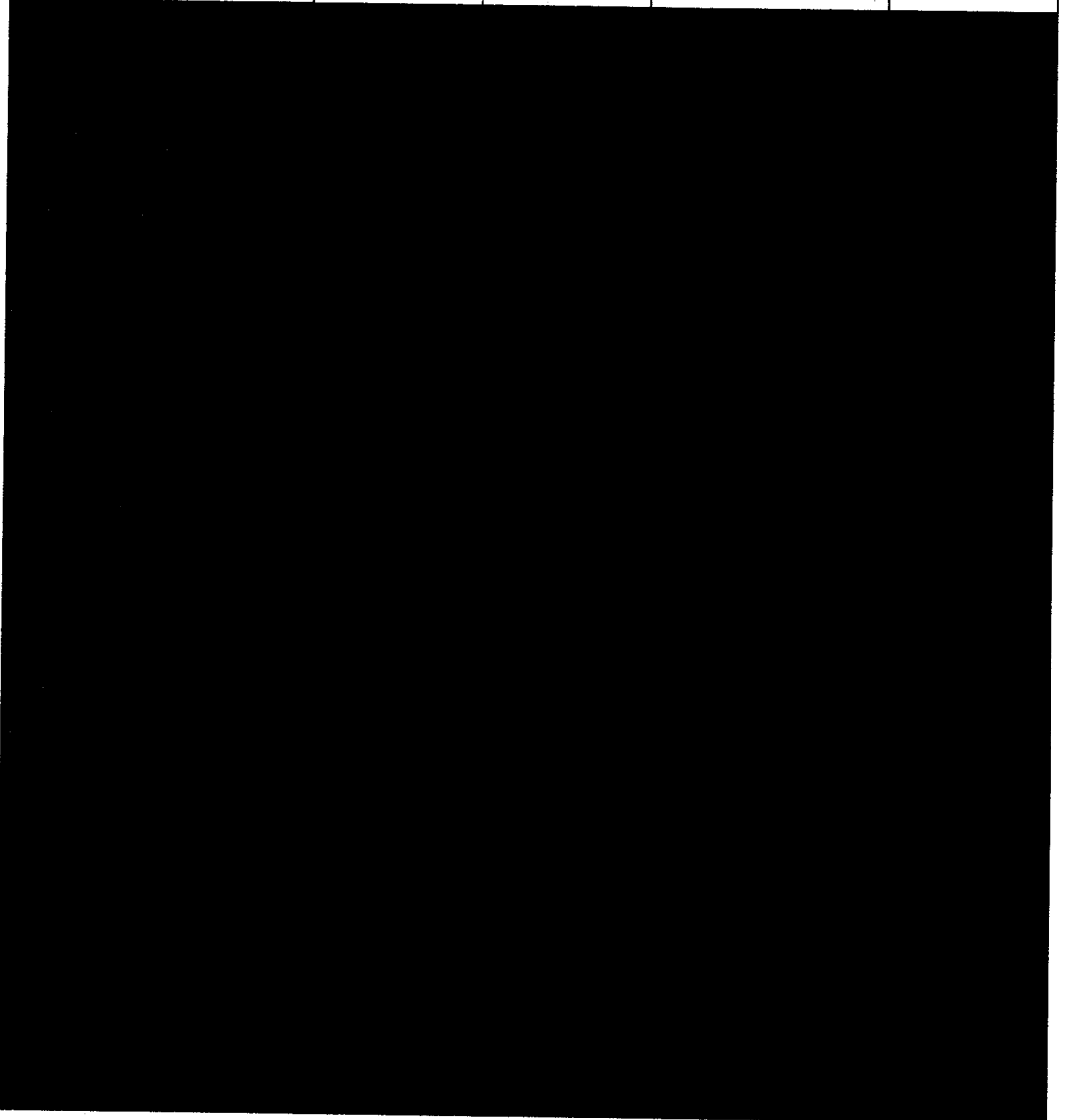
The District of Columbia requires that the following reports be incorporated into the technical solution that is delivered.

This section provides insight into how our technical solution incorporates the required reports.

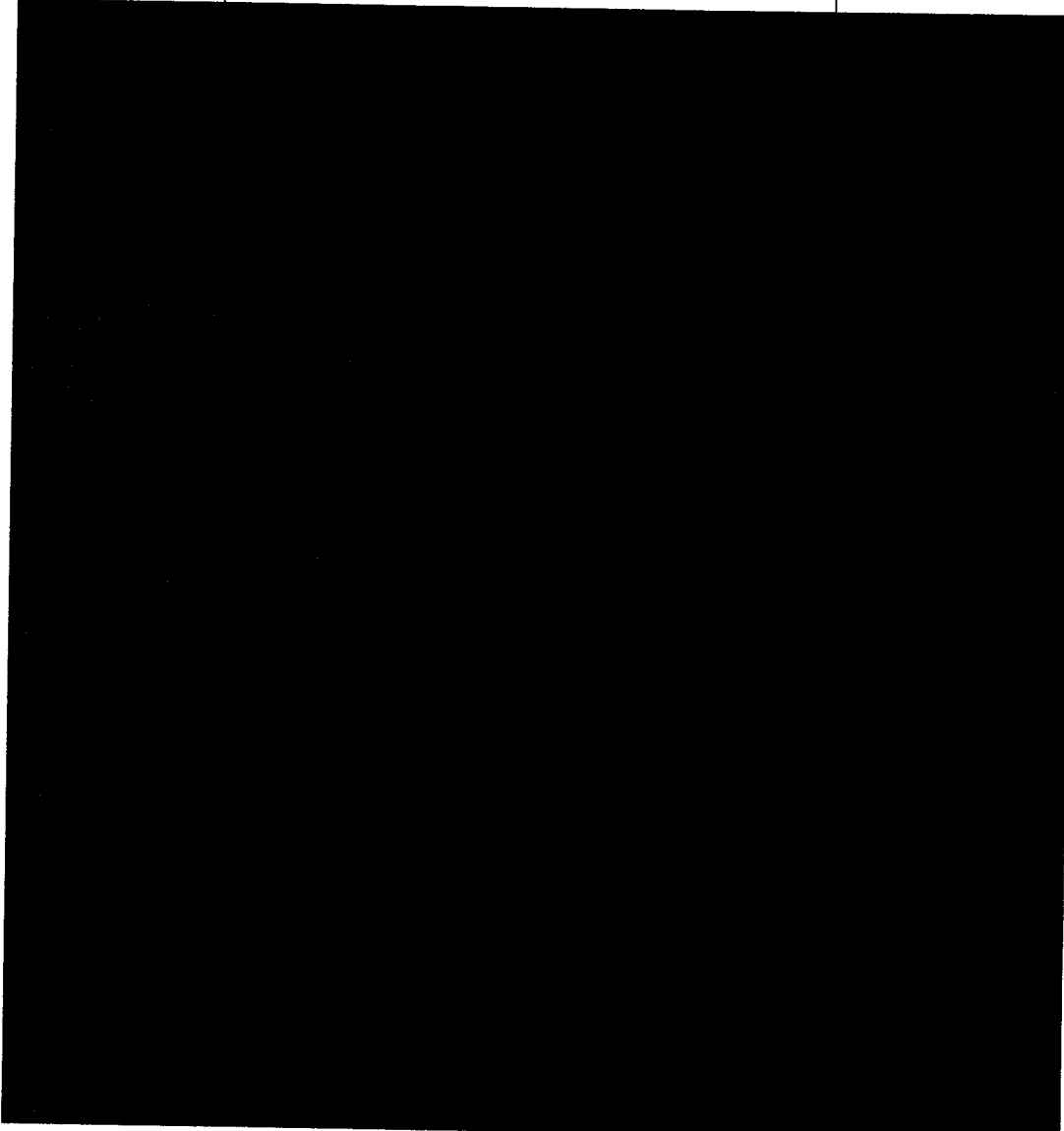
R Req. #	Category	Provider	Response
R-2	ACF-800 Report	OSSE-ECEA	

R-3	ACF-801 Report	OSSE-ECEA	
R-4	Annual childcare and development fund block grant report	OSSE-ECEA	

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R-5	Prekindergarten incentive program report	OSSE-ECEA	
R-6	Census Reports	Homeless Shelters	
R-7	Certification of Guns Free School Act Data	OSSE	
R-8	City Council	OSSE- Office of Testing and Accountability	
R-9	Civil Rights	OSSE- Office of Testing and Accountability	
R-10	Consolidated Annual Performance	OSSE- Office of Career and Technical	

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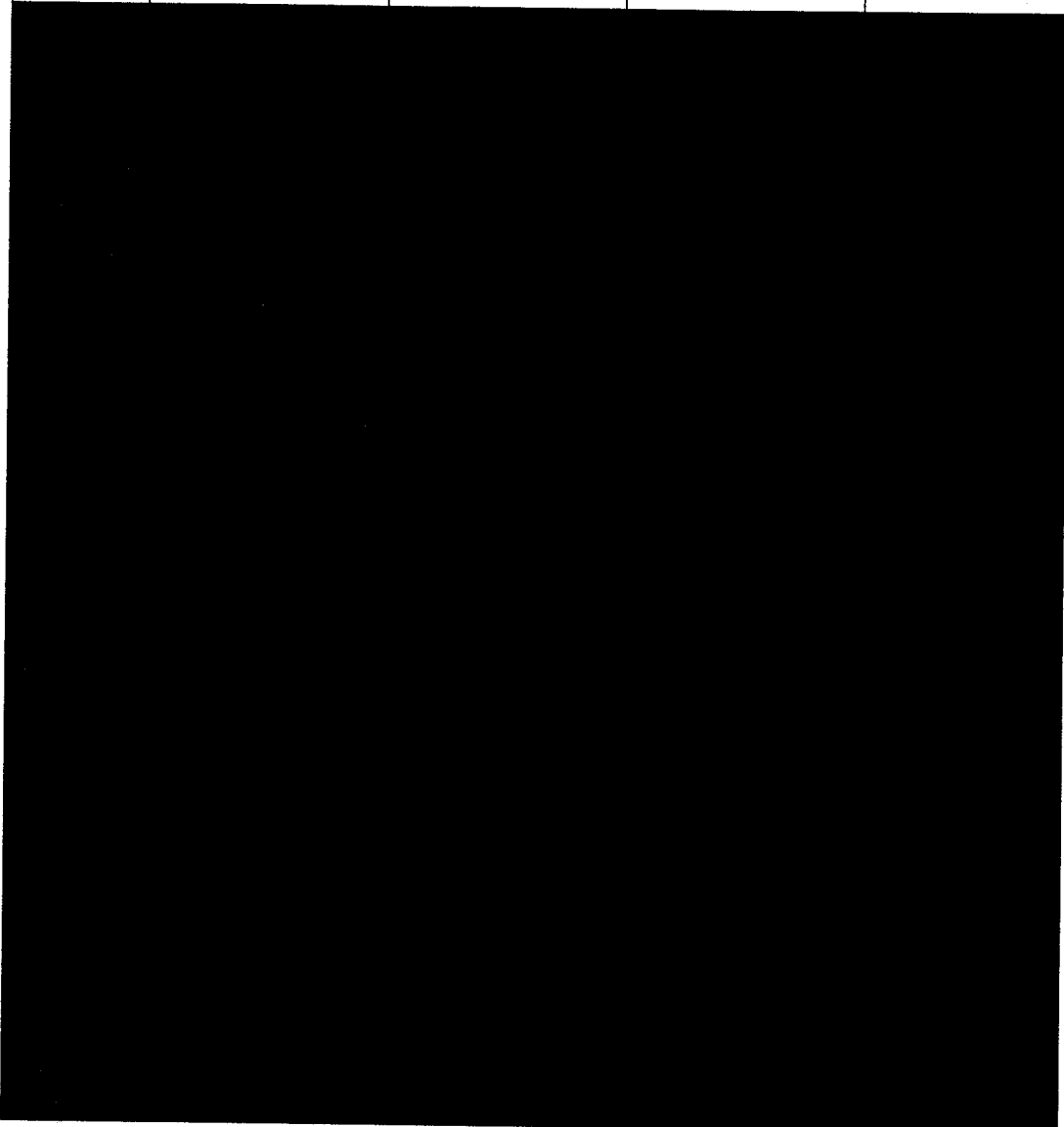
	Accountability and Financial Status Report (CAR)	education	
R-11	Consolidated state performance review (CSPR)	OSSE-Office of federal grants programs	
R-12	EdFacts	OSSE	

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R-13	Equitable Services to Private school Students Plan	DCPS	
R-14	FNS-10	OSSE- Nutrition Services	
R-15	FNS-13	OSSE- Nutrition Services	

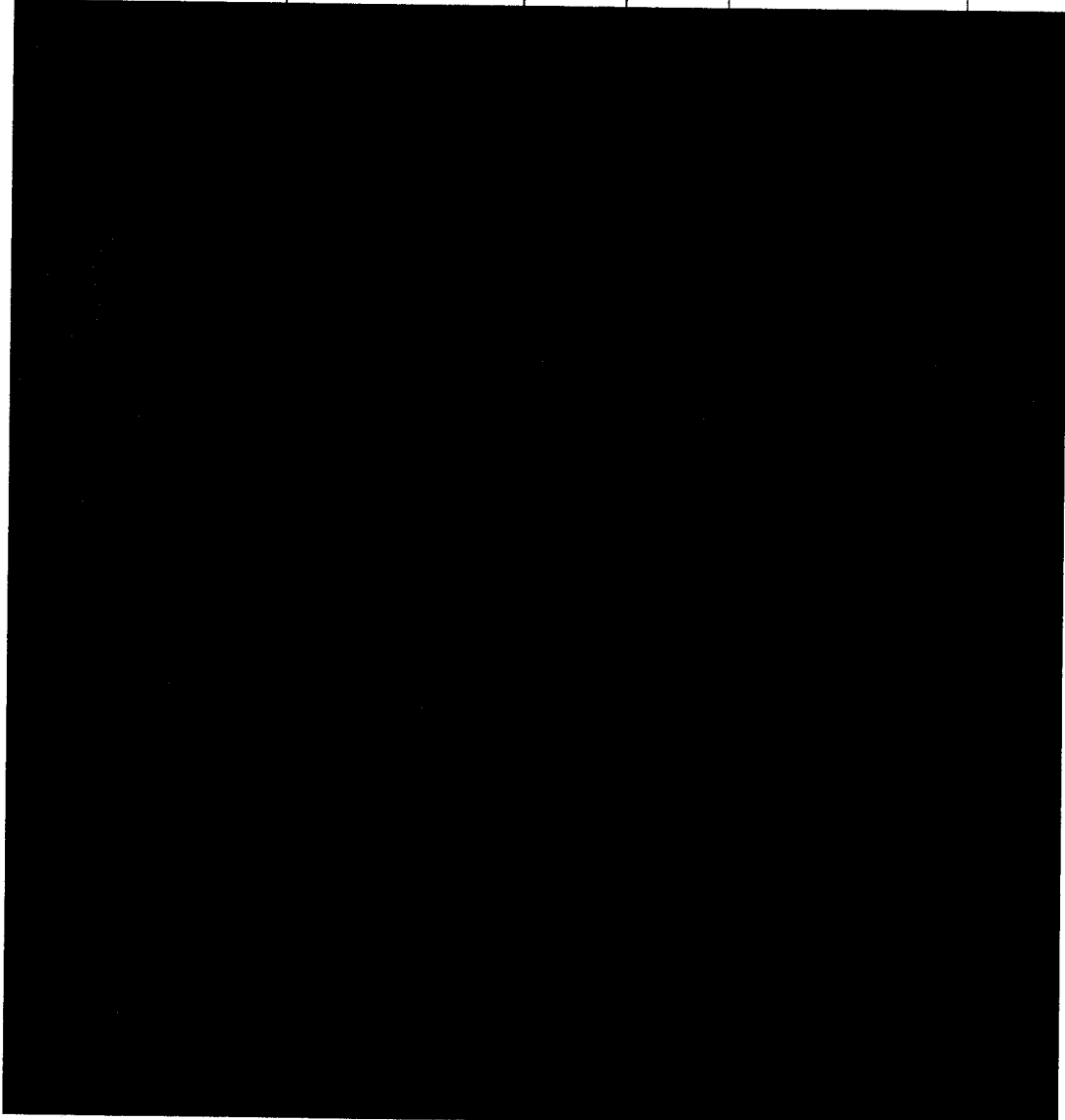
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R-16	FNS-418	OSSE- Nutrition Services
R-17	FNS-44	OSSE- Nutrition Services
R-18	FNS-525	OSSE- Nutrition Services
R-19	FNS-640	OSSE- Nutrition Services



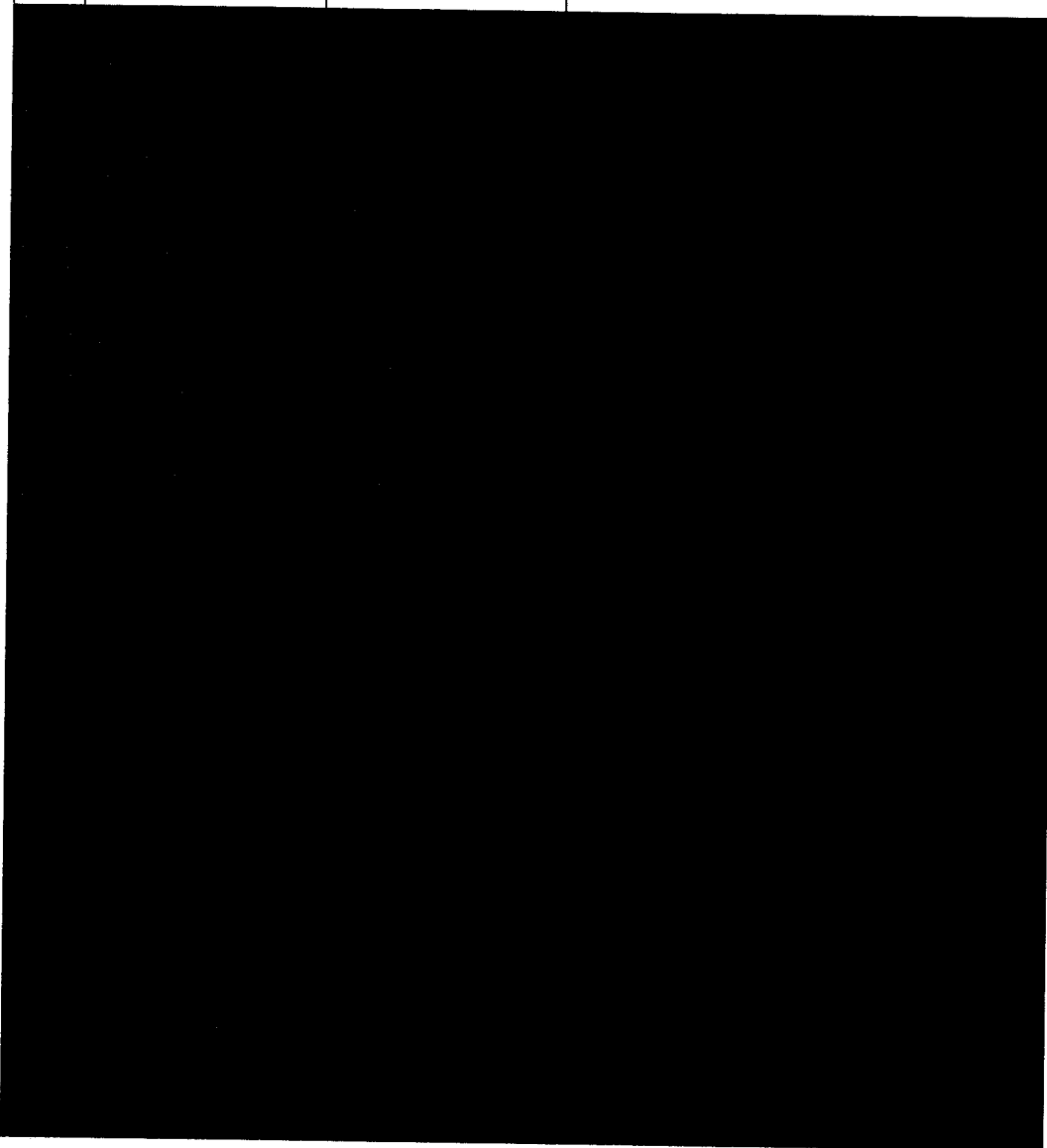
R (a)(1)

R-20	FNS-74	OSSE- Nutrition Services
R-21	General Education	OSSE-OFGP
R-22	Headstart report (quarterly)	OSSE-ECEA
R-23	Highly Qualified Teachers and Paraprofessi onals	OSSE-OELA
R-24	Homeless Managemen t Information Systems Report	Community Partnerships
R-25	IDEA	OSSE



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R-26	IDEA	OSSE
R-27	IDEA	OSSE
R-28	IDEA	OSSE



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R-29	Monitoring Schools Annual Report	Schools	
R-30	Neglected and Delinquent Annual Census Report	OSSE-OFGP	
R-31	No Child Left Behind	OSSE	
R-33	Persistently Dangerous Schools Analysis & Report to	OSSE	
R-36	Quarterly Update of Corrective Action Plan	DCPS	

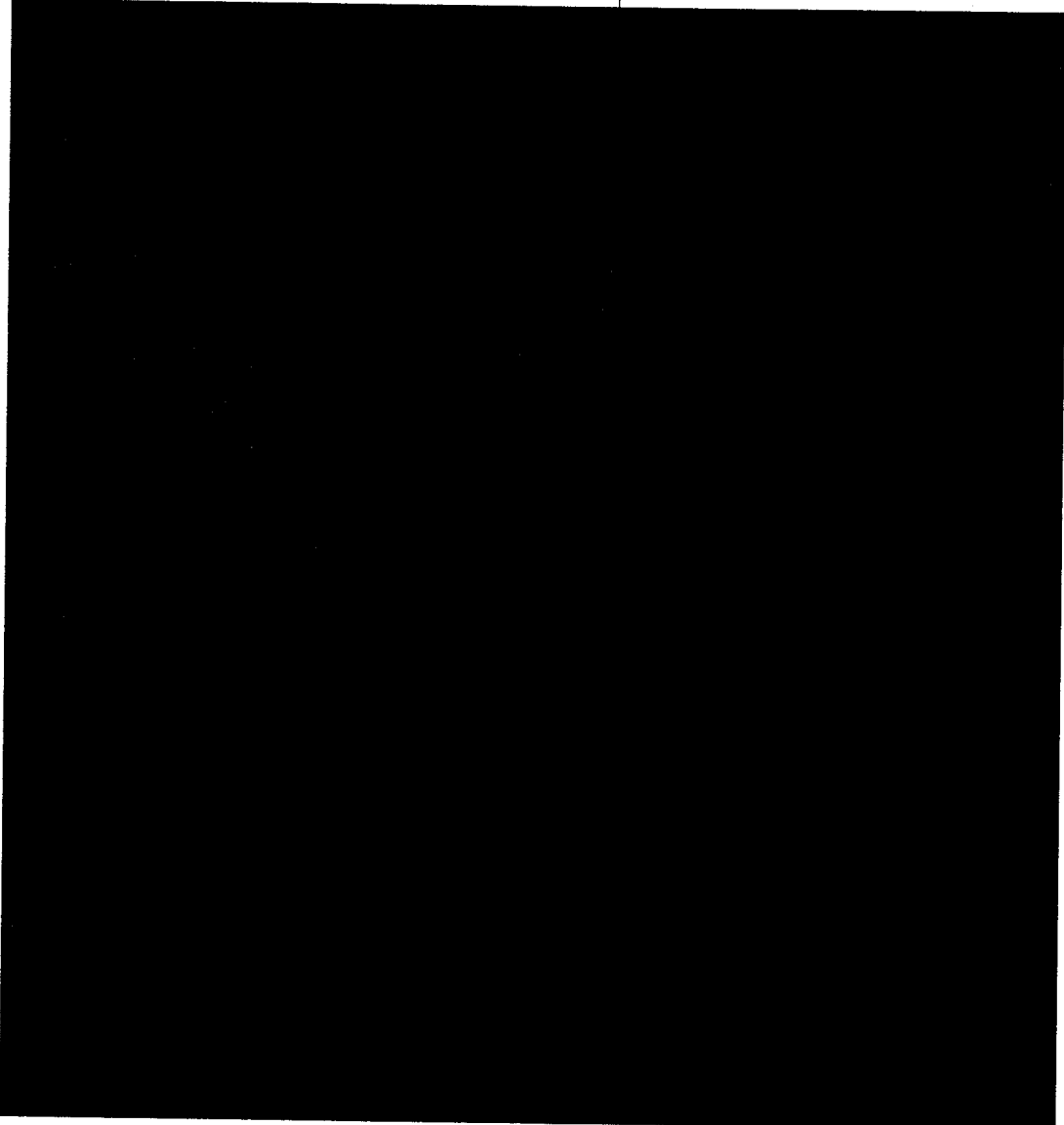
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	(CAP)		
R-37	Reading First Annual Performance Report	OSSE- Reading First	
R-38	Report On The Implementat ion Of HQT Plan	OSSE-OELA	
R-39	SF-269	OSSE - Nutrition Services	

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R-40	State Charter School Facilities Incentive Grants Program Performance Report	OSSE-OfGP	
R-41	Student Language Test Reports	OSSE- Office of Bilingual Education	
R-42	Title III Biennial Report	Title III Biennial Report	
R-43	Uniform Managemen	OSSE	

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	<p>t and Information Reporting Systems (UMIRS) Annual Reporting Requirements t s Sec 4112(c)(3)</p>		
R-44	<p>University of District of Columbia</p>	UDC	

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R-45	University of District of Columbia	UDC	

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R-46	University of District of Columbia	UDC	

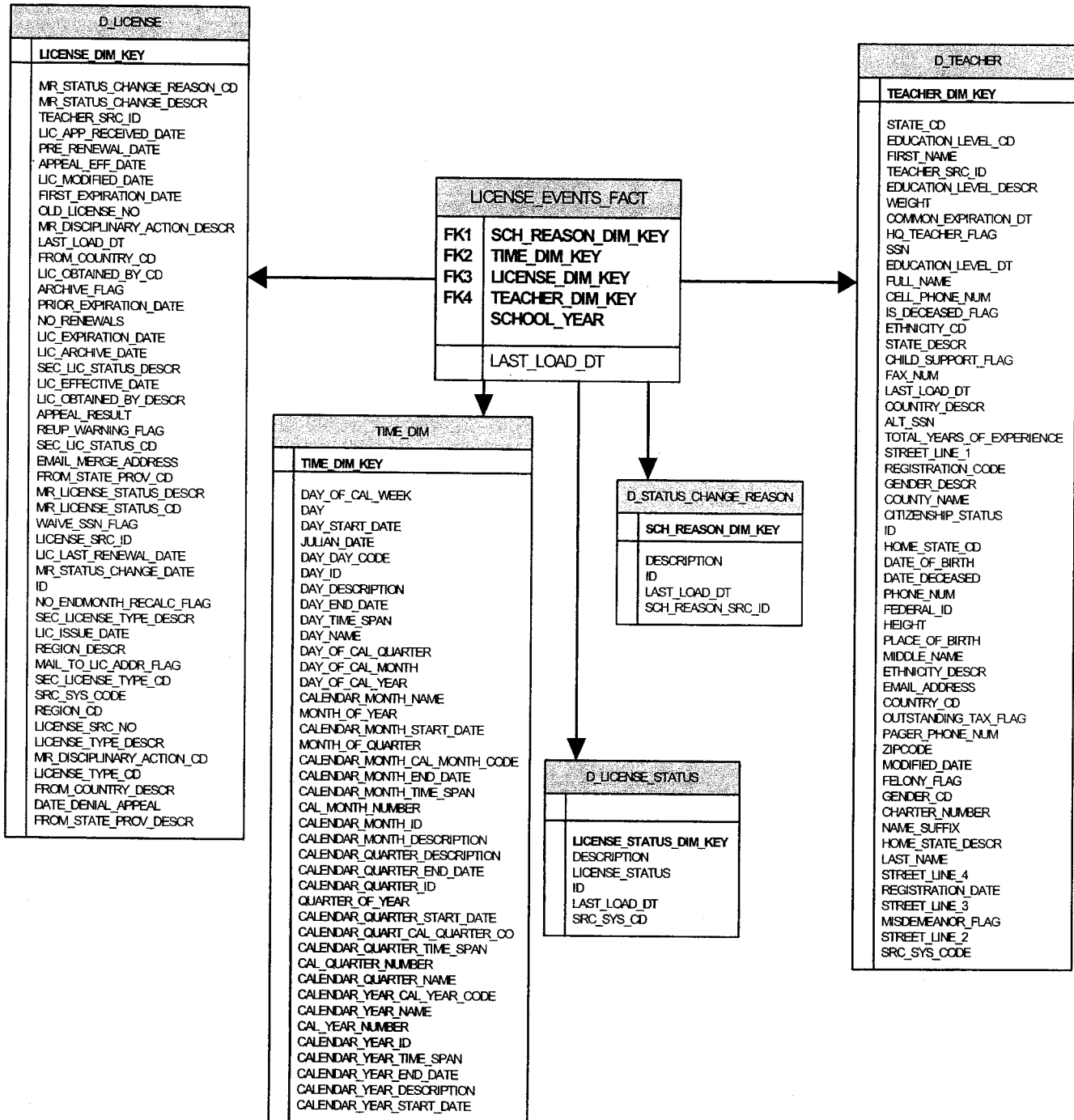
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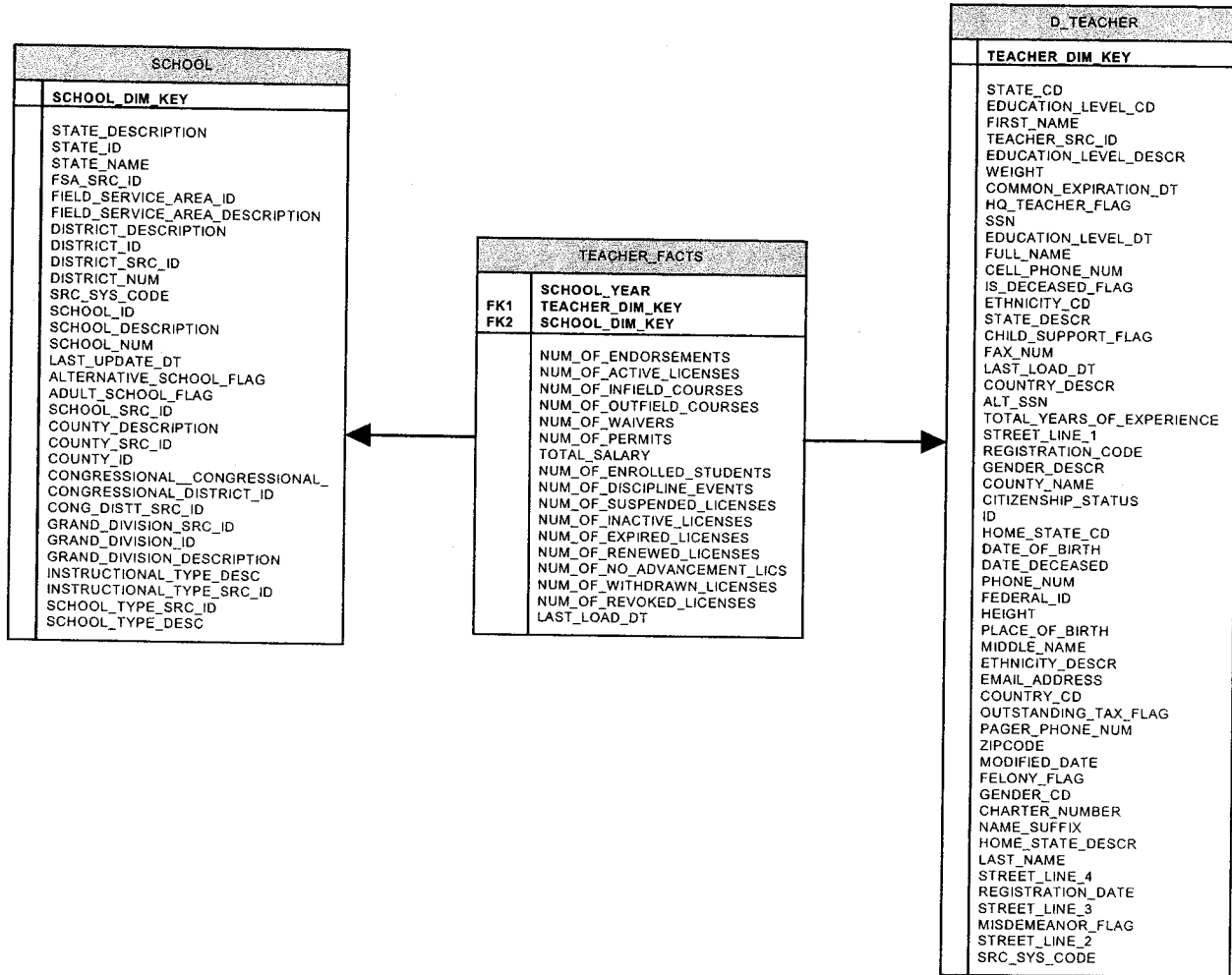
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Appendix 2: Teacher Tracking System: Sample of Data Model

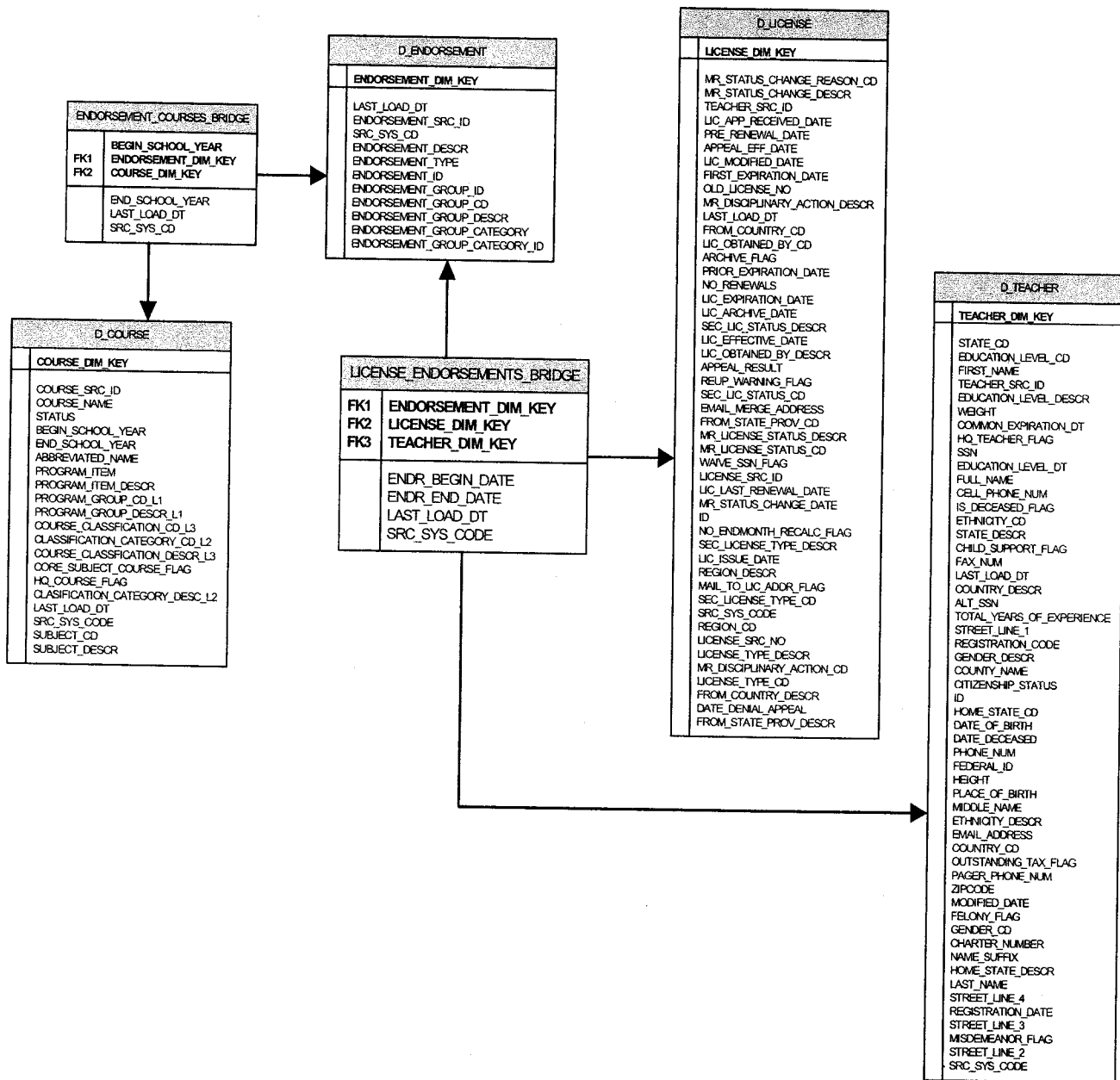
License Events Data Model



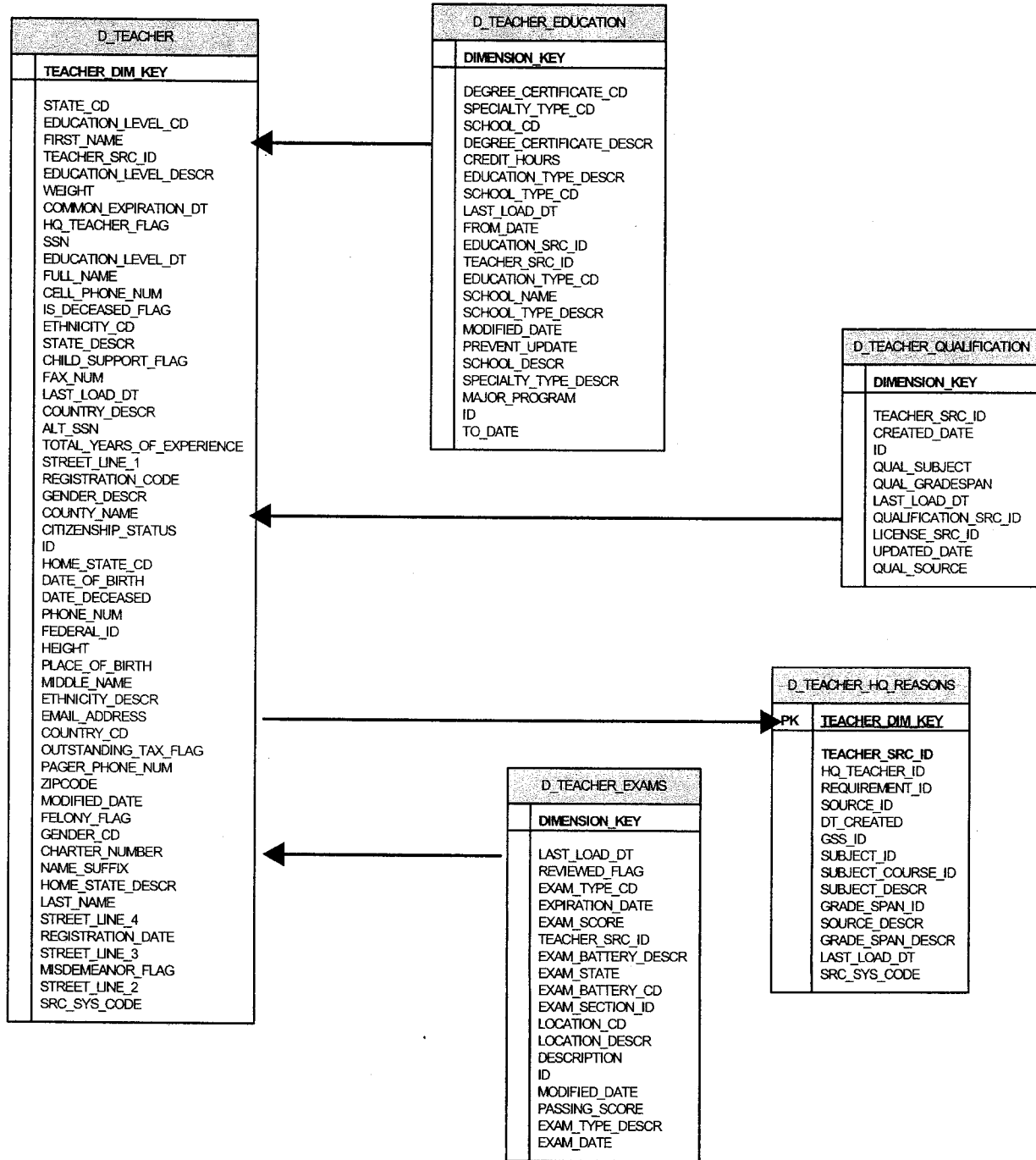
Teacher Facts Data Model



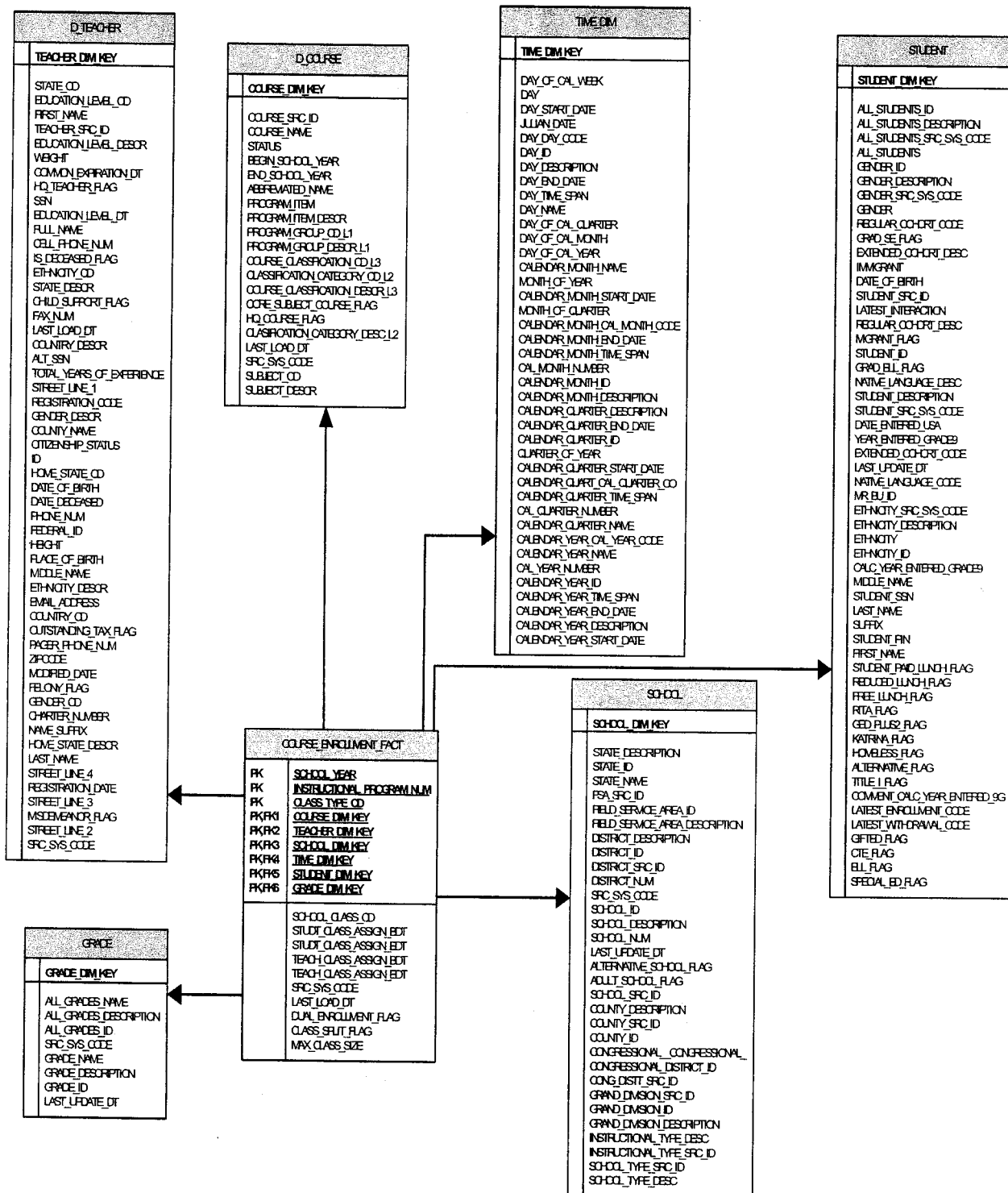
Licensing Data Model



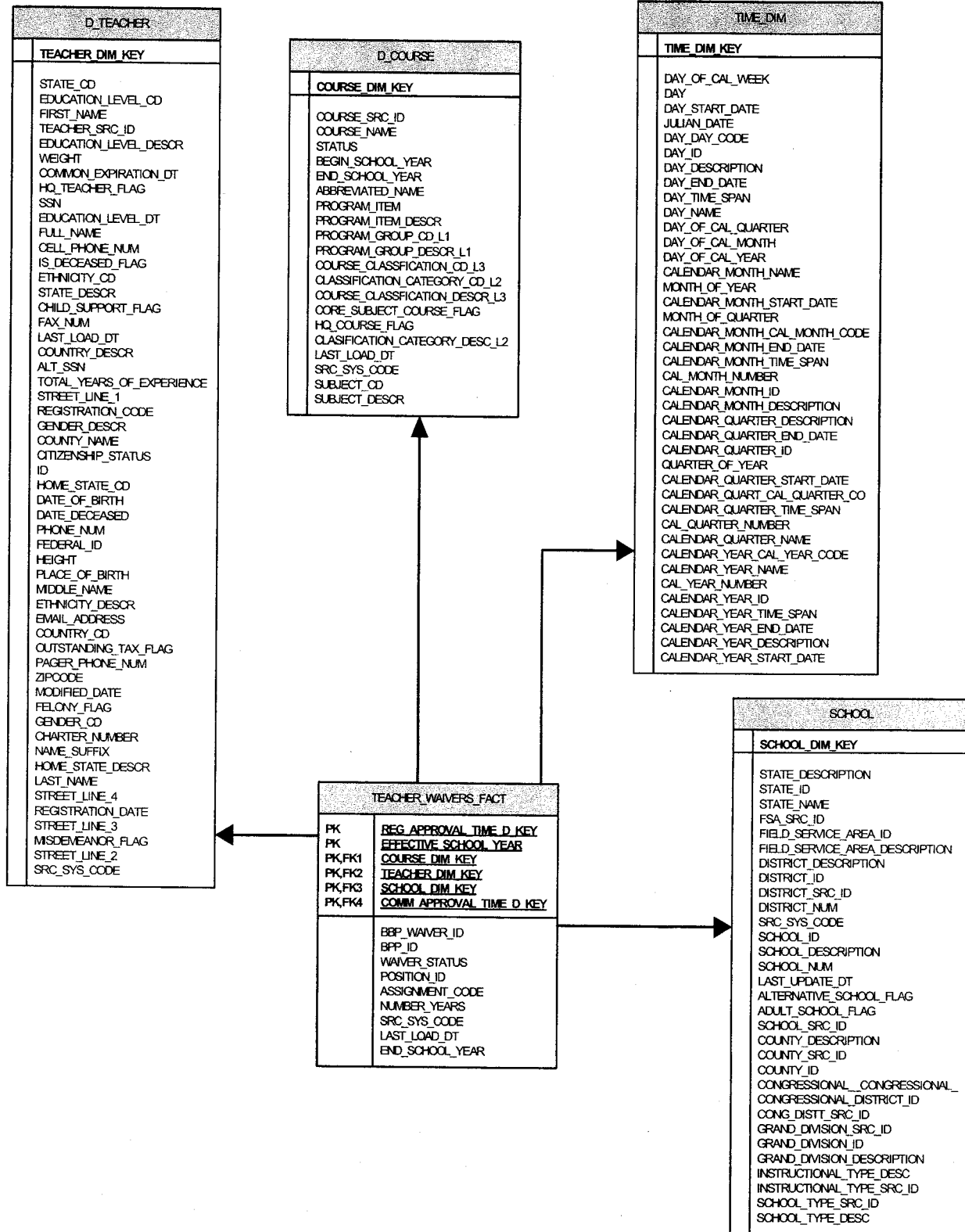
Teacher Data Model



Course Enrollment Data Model



Teacher Waivers Data Model



Appendix 3: Key characteristics and benefits of OWB 10g Release 2

- Warehouse Builder is a design tool for Business Intelligence.
- Design and deployment of business intelligence schema's, source-to-target mappings and process flows
- Fully leverages the Oracle database and other Oracle products
- Life-cycle management capabilities
- Runtime data and design time metadata sharing and reporting

The Key Features of OWB are as under:

Integration

- Oracle Database 10g
- Oracle Application Server 10g
- Oracle Warehouse Builder 10g bridges:
- OMG CWM
- Oracle Designer
- OLAP Server
- OLAP Analytical Workspaces
- Oracle Discoverer
- Oracle Express
- more than 40 metadata sources via a partner solution

ETL functionality .

- Graphical ETL design
- Numerous operators to create ETL processes:
 - Pivot/un-pivot
 - Table functions
 - Key lookup
 - Union/Minus/Intersect
 - Joiner
 - Splitter
 - Filter
 - Aggregator
 - Inline Expressions
 - Transformations
 - Surrogate key handling
 - Pre and Post mapping processes
 - External processes
- Incremental code generation within the mapper
- Graphical data flow debugger
- Auto mapping between sources and targets
- SAP Integrator provides seamless extraction from SAP R/3 source system on any platform

- An XML tool kit is supplied with a set of OWB embedded transform functions
- Process flow editor

Supported sources

- Oracle
- Relational tables
- External tables
- Advanced queues
- SAP R/3
- Flat Files
- ODBC
- DB2, Sybase, Informix, SQL Server (via Oracle Transparent Gateways)
- Mainframe

Supported targets

- Oracle Database 10g Release 1 (including RAC support)
- Oracle9i Release 2 (including RAC support)
- Oracle8i Release 3 (8.1.7.4)
- Flat files

Extensibility

- Public views on both design time and runtime environment
- Public Java APIs to access any of the product's functionality
- Tcl-based scripting language to access any of the product's functionality

Target design capabilities

- Wizard driven and highly graphical data stores, marts and enterprise Business Intelligence systems
- Relational models
- Multi-Dimensional models

Standards conformance

- OMG CWM:
- Open standard
- Utilizes XML Metadata Interchange (XMI)
- Powerful object model
- Spans spectrum related to ETL and analysis
- XPDL code generation for process flows

Data Quality

- Name and Address checking

- Open architecture for data quality vendors
- Match-Merge

Lifecycle Management

- Source metadata Reconcile:
- Re-import existing source objects
- Reconcile with current definitions
- Impact analysis
- Create/Drop/Add/Rename Objects
- Impact Analysis report
- Generate upgrade scripts
- Store intermediate data if required for change

Reporting

- Support for multiple Portlets within the Warehouse Builder Browser component
- Metadata Impact Analysis Reporting
- Metadata Lineage Reporting
- Portlet based technology
- Secure framework
- HTML-based Design and Runtime Audit reporting

Flat file handling

- Character delimited and fixed length
- Single or multiple record type files
- Graphical Expression builder
- Graphical Transformation Editor
- Transformation library to store and share transformations

Metadata Management

- Repository security model
- Advanced validation framework
- Multiple User Environment
- Advanced locking and name checking
- Archive and Restore mechanism
- Multi Language Support (MLS)
- Fully exposed version management of any object
- Extensibility through user-defined properties

Related Products

- Oracle Warehouse Builder 10g is the center of Business Intelligence design and integrates with a number of Oracle products:
- Oracle Database 10g Enterprise Edition:
- Deployment target

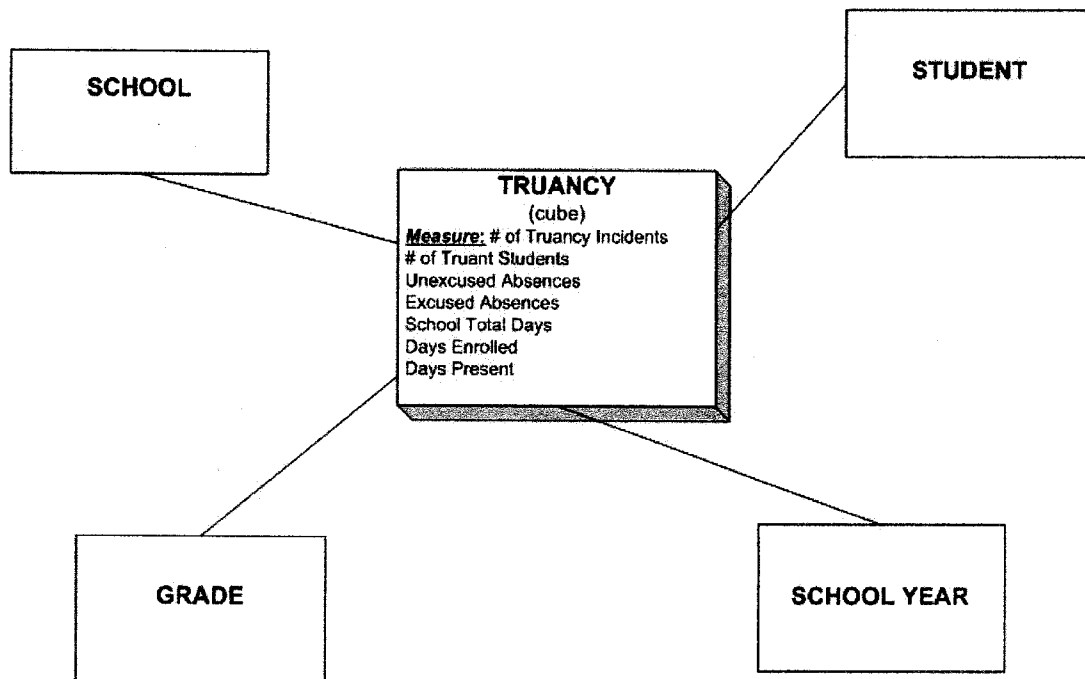
- ETL functionality
- OLAP server
- Workflow engine
- Oracle Enterprise Manager scheduling
- Oracle Application Server 10g:
- Metadata reporting
- Oracle Discoverer
- Oracle Business Intelligence Beans

The ETL Process is a packaged solution using Oracle Warehouse Builder (OWB) 10g Release 2. The ETL process includes the following components:

- Built in connections to all major data sources
- Changed Data Capture (CDC) functionality
- Built-in functions for transformation and cleansing and the ability to add custom transformation and cleansing for each data element
- Load functionality to populate the staging area
- Load functionality to populate the dimensional data marts
- Snapshot and Aggregate Creation
- Row level Pass/Fail capability that allows rows to be sent to a fail file for future correction or data quality reporting
- Late Arriving Dimension handling
- Metadata Repository with data lineage and Impact analysis
- Surrogate key management
- Slowly Changing Dimension (SCD) management

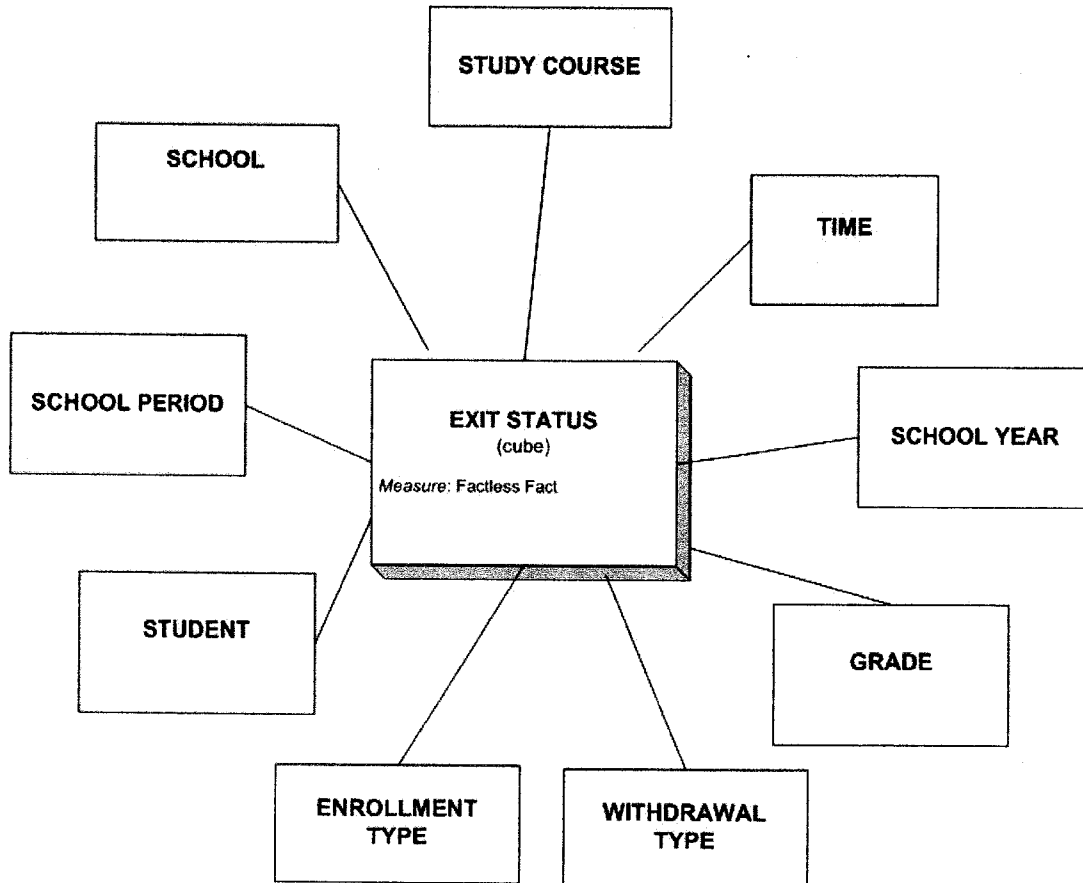
Appendix 4: Oracle K-12 Data Model Subject Areas

Truancy Subject Area -- Data Model Oracle Proprietary -- For Illustration Purposes only



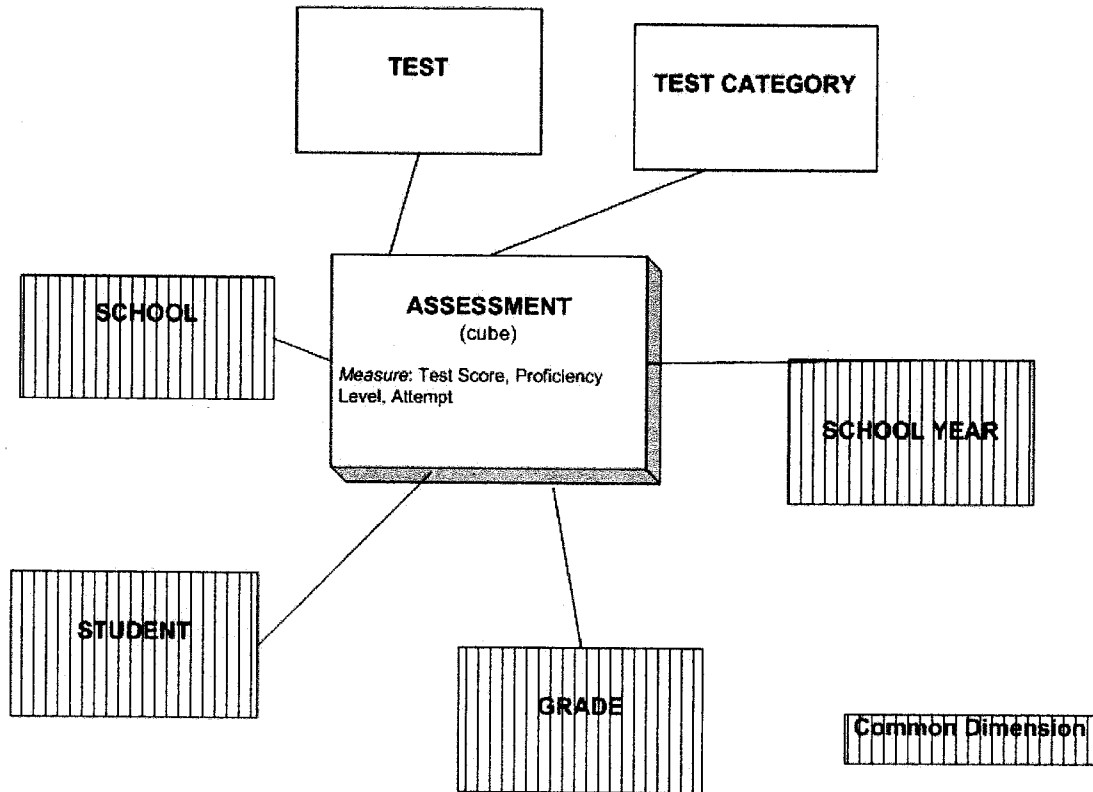
Exit Status Subject Area -- Data Model

Oracle Proprietary – For Illustration Purposes only



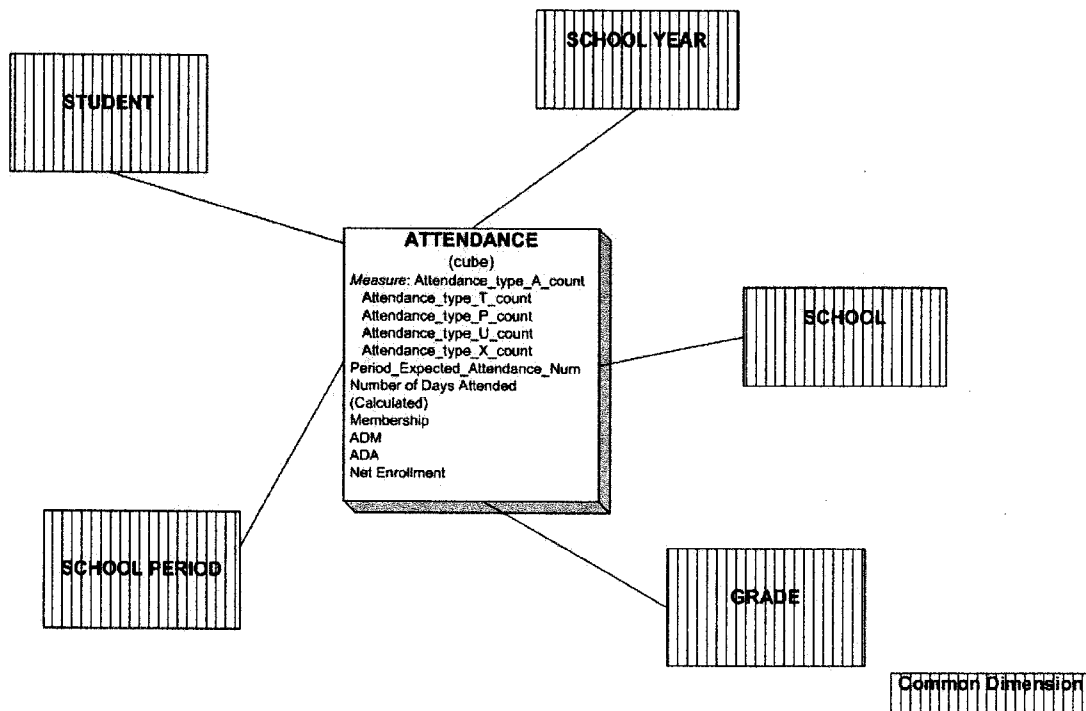
Assessment Subject Area -- Data Model

Oracle Proprietary -- For Illustration Purposes only



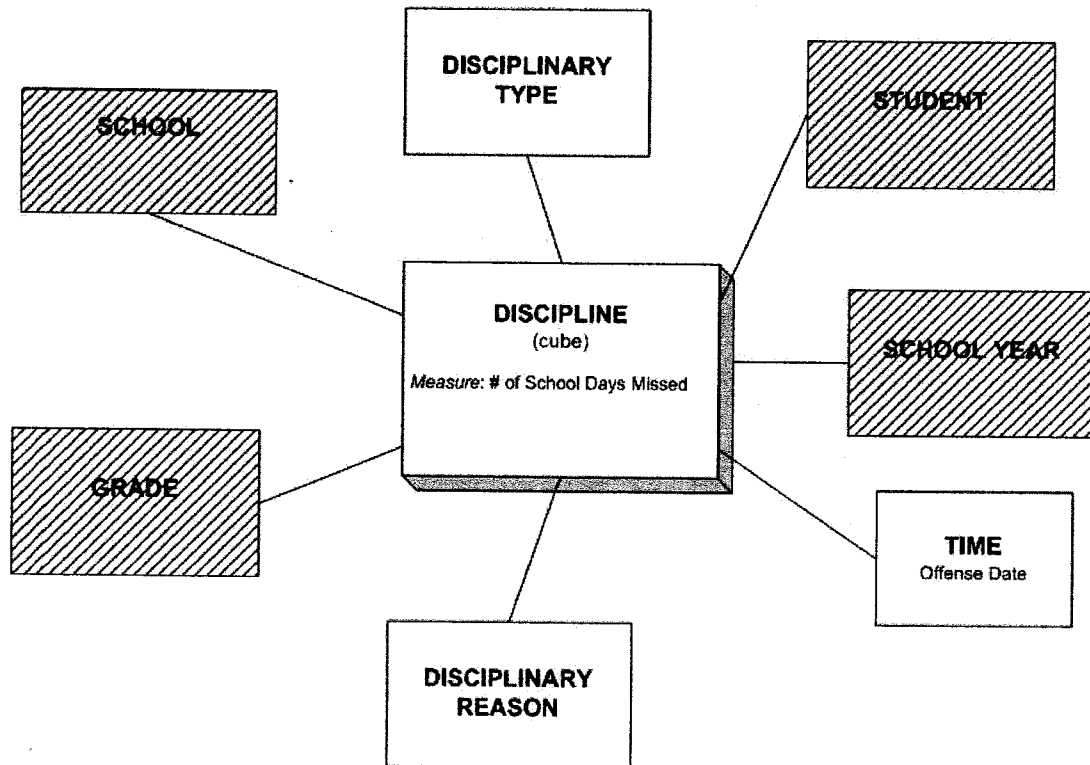
Attendance Subject Area -- Data Model

Oracle Proprietary – For Illustration Purposes only



Discipline Subject Area -- Data Model

Oracle Proprietary – For Illustration Purposes only



Appendix 5: OLAP, APEX and Data Mining

Oracle Online Analytical Processing (OLAP)

The proposed solution envisions using Oracle 10g OLAP functionality that will support trend analysis and predictive analysis for modeling. Examples might include scenarios such as the impact of market trends or the impact of proposed legislative changes.

Oracle OLAP extends the world class Oracle Database data warehousing platform by embedding best of breed calculation power, efficiency, ease of use, and performance right into the database where the data is. Oracle brings the analysis to the data, not the data to the analysis. This avoids the expensive, risky, complex, slow and often insecure old-fashioned approach of duplicating and transferring large volumes of valuable corporate data out of the data warehouse into separate standalone servers and marts in a variety of technologies requiring proprietary front ends and specialist (expensive) support.

The Foundation and Optimization layers will include Analytical Workspaces (AW). AW is the name given to the tables inside the Oracle 10g Database that contain the multidimensional data types leveraged by the multidimensional calculation engine within Oracle. Analytic workspaces contain the dimensional (dimensions, hierarchies, levels, attributes etc) and fact/measure data plus calculation logic and metadata that supports a wide range of end-user/front-end tools and applications. Because data is stored in high performance multidimensional arrays in an AW, query performance is excellent, and sophisticated multidimensional calculations, aggregations and data selections can be processed extremely efficiently. This combination of calculation prowess and blinding query performance leads to superior query scalability.

Because Oracle OLAP embeds advanced multidimensional data storage inside the Oracle 10g Database, and uniquely provides access to all its calculation power and performance even via simple SQL queries, it is the ideal data server for SQL based query, reporting and analysis tools - those from Oracle Corporation, and numerous partner tools and applications.

The combination of Oracle BI Enterprise Edition and the Oracle 10g Database and Oracle 10g Database with the OLAP Option provides the best of both worlds: the best data integration and analysis platform in the Oracle Database combined with an attractive and proven market leading BI tools suite which is able to deliver pervasive BI - across the breadth of the organization, and by embedding intelligence into the everyday activities of the employees - from the CEO to the front office clerk.

10g OLAP is an integrated component of Oracle Database 10g that enables companies to easily gain insights into business performance. The OLAP option to Oracle Database 10g represents a truly unique offering to the OLAP market. It offers an industrial-strength calculation engine and performance unmatched by any stand-alone multidimensional

database, yet it does so in the context of the reliable and secure platform of the Oracle Database.

Data for OLAP analysis is stored in the Oracle Database in an Analytical Workspace (AW). The ETL tool proposed in this solution, OWB supports directly modeling objects in the AW. SLEDS can utilize the Analytical Workspace feature of the Oracle 10g Database to create OLAP cubes for complex analysis. The Design phase will detail the specific areas in which OLAP analysis will be used. Not only does the OLAP option integrate with OWB, it also integrates well with the proposed reporting tool, OBI EE. Some of the integration points between OLAP and OBI EE are included below:

Seamlessly integrates Oracle OLAP

- No additional learning curve for end users
- Utilized by all parts of the solution
- Queries tuned to leverage OLAP aggregations
- Optimizes performance
- OLAP calculations on aggregate data occur in Oracle OLAP
- Distributed query support enables integration of both OLAP and non-OLAP data

Oracle Application Express (APEX)

Oracle Application Express (Oracle APEX), formerly called HTML DB, is a rapid web application development tool for the Oracle database. Using only a web browser and limited programming experience, you can develop and deploy professional applications that are both fast and secure. Oracle application express combines the qualities of a personal database, productivity, ease of use, and flexibility with the qualities of an enterprise database, security, integrity, scalability, availability and built for the web. Application Express is a tool to build web-based applications and the application development environment is also conveniently web-based.

Data Mining

Data mining can be looked as data or knowledge discovery process of analyzing data from different perspectives and summarizing these into useful information – information that is actionable and that can be used to increase revenue, cuts costs, or both. Oracle Data mining software is an advanced analytical tool for analyzing data that is embedded in the database to prevent unneeded movement of data. It allows users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified via end user reports. Technically, data mining is the process of finding correlations or patterns among dozens of fields in large relational databases.

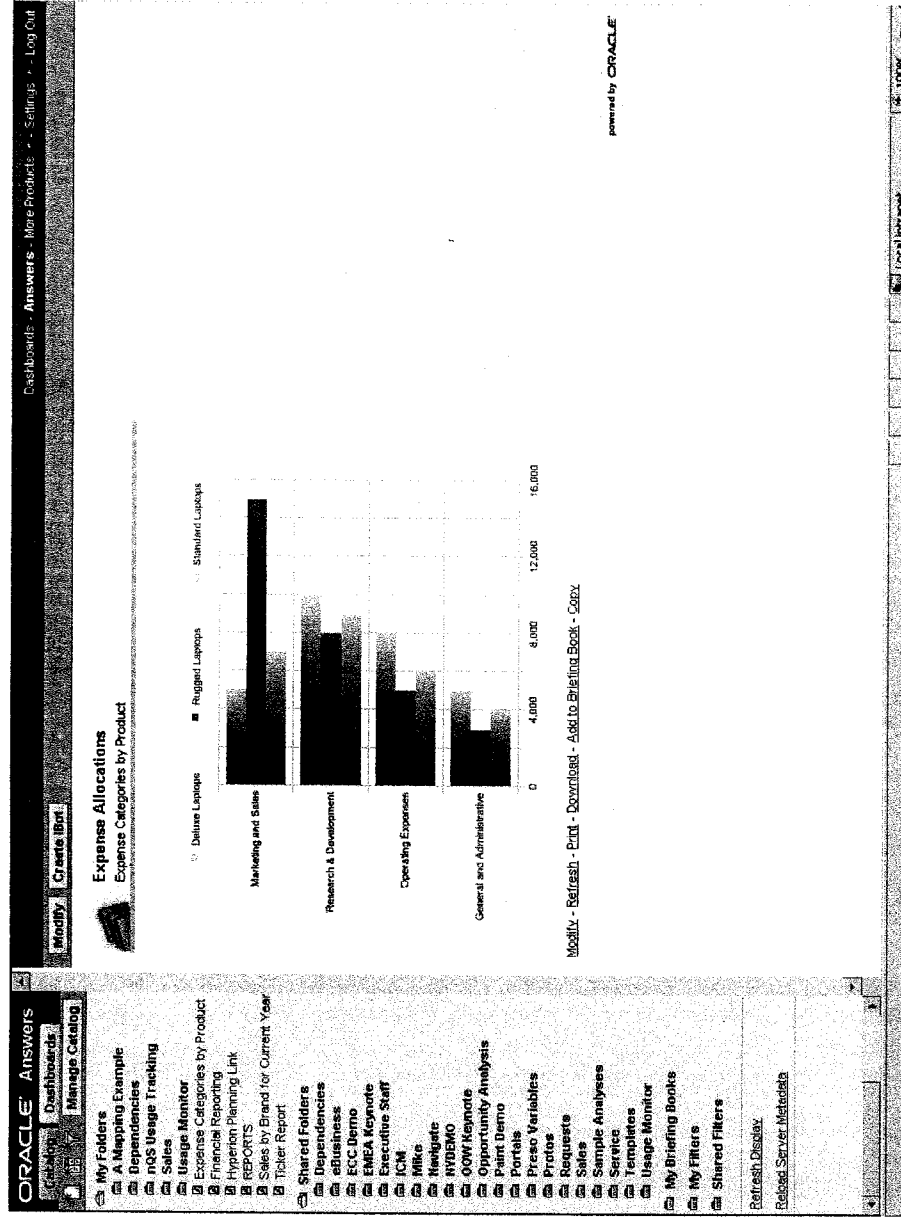
While typical DW reports can help to visualize the historical data and general trends, accurate predicting of future events based on insights and hidden patterns from the current data is not possible without data mining.

Data Mining can take advantage of the data marts created during the data warehousing process for advanced analytics based reports in different subject areas. The information in the Foundation Layer and Optimization Layer can be used to create a Mining Table Repository (MTR) that acts as input data for the data mining models. The MTR can be also added after Phase 2 of the proposed solution as long as the data warehouse contains enough information for data mining. This can be done in a batch process that is scheduled to run periodically or after each major data load and store that results in the database tables that can be used to drive executive dashboards or other reports to help in data-driven planning or decision making process. OBI EE – Delivers can also be used to schedule delivery of such reports via email, message to PDAs etc. to relevant users.

Since data mining can provide predictive analysis, SLEDs could use this to get answers to question like which insurance customer are likely to churn, what proactive retention strategy works best for an insurance customer from a certain segment, it can provide valuable insights to the market department.

Appendix 6a: Oracle Business Intelligence Enterprise Edition (OBIEE)

Screen Shot 1 – User Friendly Interface



Dashboards - Answers - More Products - Settings - Log Out

Oracle Answers

Criteria Results Prompts Advanced

Pivot Table ?

Show Controls Chart Pivoted Results

Excluded

Columns Measure Labels Measures Sales Measures Dollars

Rows Markets Region District Market

Pages Sections

Display Results

Market	Dollars
CHICAGO	\$1,981,167
MILWAUKEE	\$95,973
CHICAGO DISTRICT Total	\$1,947,140
CINCINNATI	\$312,966
COLUMBUS	\$182,045
INDIANAPOLIS	\$163,288
CINCINNATI DISTRICT Total	\$658,279
DETROIT	\$593,030
DETROIT DISTRICT Total	\$593,030
KANSAS CITY	\$124,544
OKLAHOMA CITY/TULSA	\$49,830
ST. LOUIS	\$75,541
KANSAS CITY DISTRICT Total	\$249,916
MINNEAPOLIS	\$132,294
MINNEAPOLIS DISTRICT Total	\$132,294
CENTRAL REGION Total	\$3,575,658
BOSTON	\$2,480,381

Paint

- Column
- Markets
- Total US
- Region
- District
- Market
- Products
- Periods
- Total Period
- Year
- Month
- Week
- Current Date
- Sales Measures
- Units
- Dollars
- Price Per Unit
- Year Ago Units
- % Chg Year Ago Units
- % Chg Year Ago Dollars
- Year Ago Dollars
- % Chg Year Ago Price Per Unit
- Month Ago Units
- % Chg Month Ago Units
- % Chg Month Ago Dollars
- % Chg Month Ago Price Per Unit
- Share Measures
- Forecast Measures
- Filters
- Print Demo

Refresh Display

Reload Server Metadata

Screen Shot 3 – Metadata Administration Tool

Oracle BI Administration Tool - paint.rpd

File Edit View Manage Tools Window Help

Presentation

- Paint
- Markets
- Total US
- Region
- District
- Market
- Products
- Total Product
- Type
- Brand
- UPC
- Color
- Finish
- Size X
- Periods
- Sales Measures
- Share Measures
- Forecast Measures
- Paint Exec
- Measures
- Markets
- Periods
- Products

Business Model and Mapping

- Paint
- MarketDim
- PeriodDim
- ProductDim
- Markets
- Periods
- Products
- Sales Facts

Physical

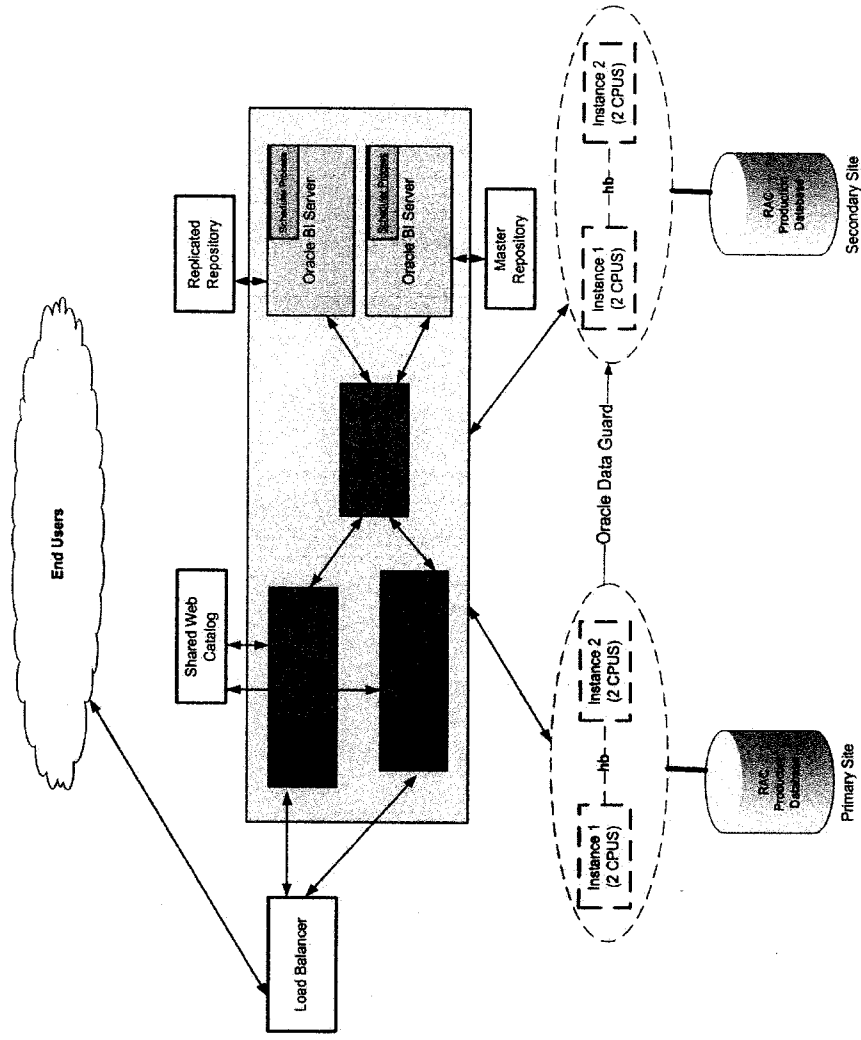
- Forecast
- XML_Forecast
- Forecast
- Paint
- XML_Paint
- Fact
- Market
- Month Ago fact
- Month Year Ago fact
- Period
- Product
- Year Ago fact

NUM

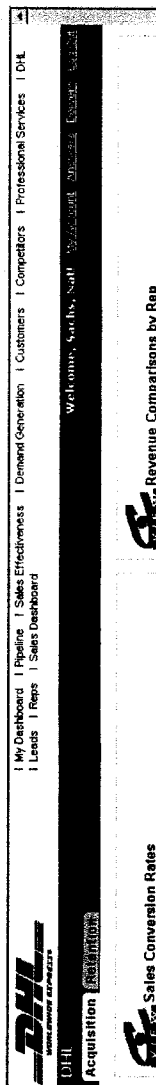
For Help, press F1

Screen Shot 4 – Maximum Availability Architecture

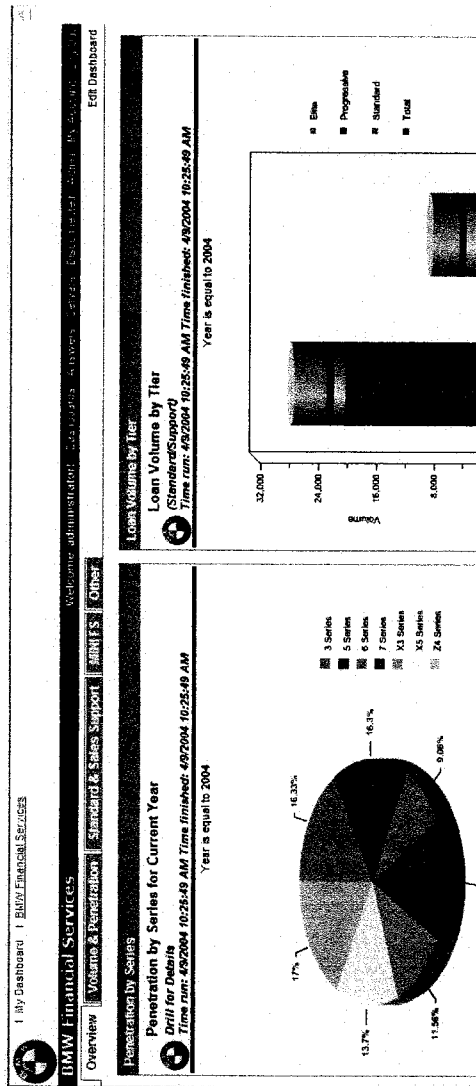
Production -- Maximum Availability Architecture Proposed for DC Schools



Screen Shot 5a – Incorporating Branding



Screen Shot 5b – Incorporating Branding



Screen Shot 6 – Saving Ad Hoc Reports

Oracle Answers

Criteria Results Promote Advanced

Print Table Show Controls

Columns

- Markets
 - Total US
 - Region
 - District
 - Market
- Products
- Periods
 - Total Period
 - Year
 - Month
 - Week
- Sales Measures
 - Current Date
 - Units
 - Dollars
 - Price Per Unit
 - Year Ago Units
 - % Chg Year Ago Units
 - Year Ago Dollars
 - % Chg Year Ago Dollars
 - Year Ago Price Per Unit
 - Month Ago Units
 - % Chg Month Ago Units
 - Month Ago Dollars
 - % Chg Month Ago Dollars
- Share Measures
- Forecast Measures
- Filters
- Print Demo

Refresh Display

Reload Server Metadata

Save Request

- My Folders
 - _portal
- Shared Folders
 - Print Demo
 - Guided Navigations
 - Report Prompts
 - Sales Summaries
 - Sample Analyses
 - Standard Reports
 - Top & Bottom Performers

Create Folder

Folder Name Description

Shared Folders: Print Demo

District Financial Report

Save and Schedule

OK Cancel

Folder	Name	Description
CHICAGO		
MILWAUKEE		
CHICAGO DISTRICT Total		
CINCINNATI		
COLUMBUS		
INDIANAPOLIS		
CINCINNATI DISTRICT Total		
DETROIT		
DETROIT DISTRICT Total		
KANSAS CITY		
OKLAHOMA CITY/TULSA		
ST LOUIS		
KANSAS CITY DISTRICT Total		
MINNEAPOLIS		
MINNEAPOLIS DISTRICT Total		
CENTRAL REGION Total		
BOSTON		
HARTFORD/NEW HAVEN		

146,830 \$75,241

\$246,315 \$112,284

\$132,294 \$3,579,650

\$2,436,391 \$322,186

Screen Shot 7 – Multi-Language Support

The screenshot displays the Oracle Business Intelligence login interface. At the top left, there is a banner with the text "Oracle Business Intelligence" and the Oracle logo. Below the banner, the text "Please enter your User ID and Password below, and then press the Log In button." is displayed. The login form consists of two input fields: "User ID" and "Password", followed by a "Log In" button. A dropdown menu titled "Select a Language" is open, showing a list of languages. The languages listed are: English, cesky, dansk, Deutsch, ελληνικά - ελληνικά, English (highlighted), Español, suomi, français, Magyar, italiano, and עברית - Hebrew. To the right of the dropdown menu, there is a small text block that reads: "which include both the... provided under a license... protected by copyright, or... engineering, disassembly, or... interoperability with other".